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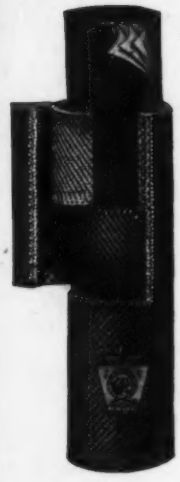
The Journal of the Fire Protection Profession

JANUARY 21, 1931



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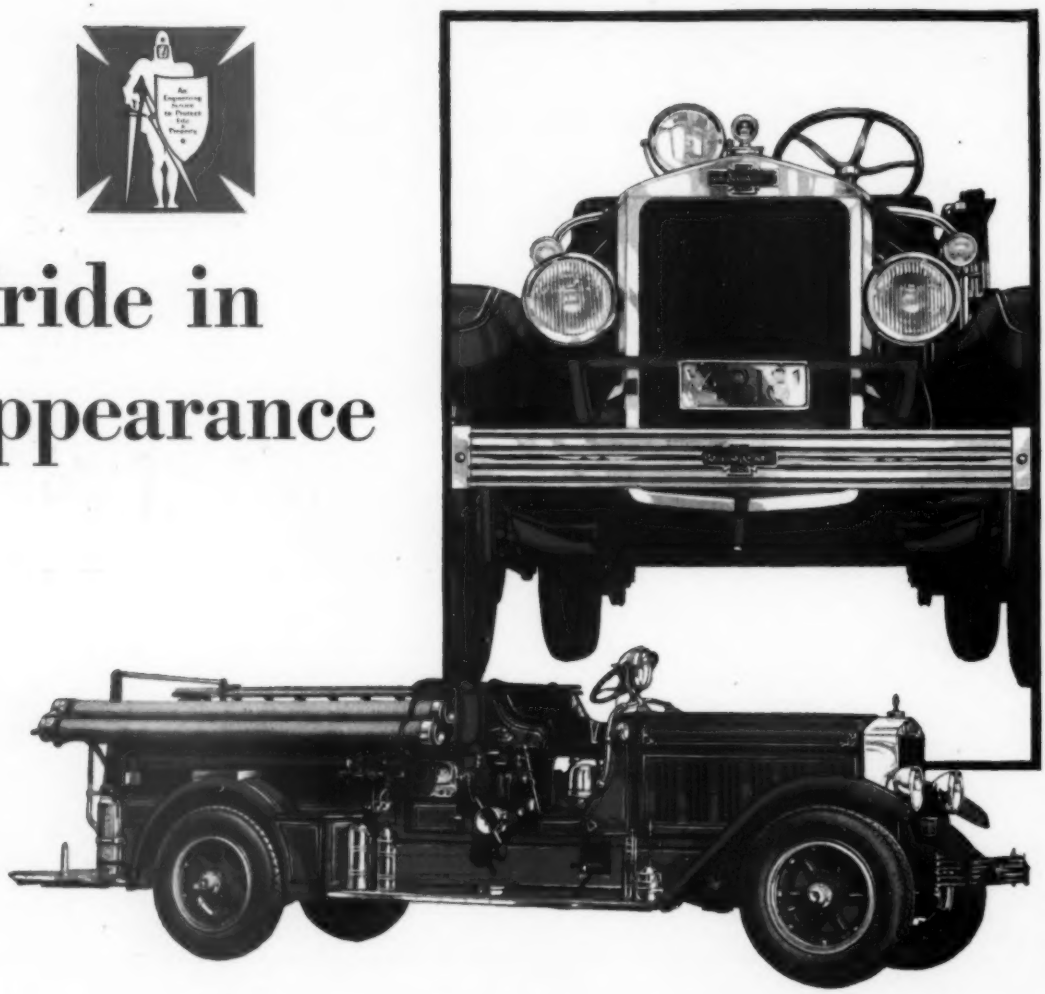

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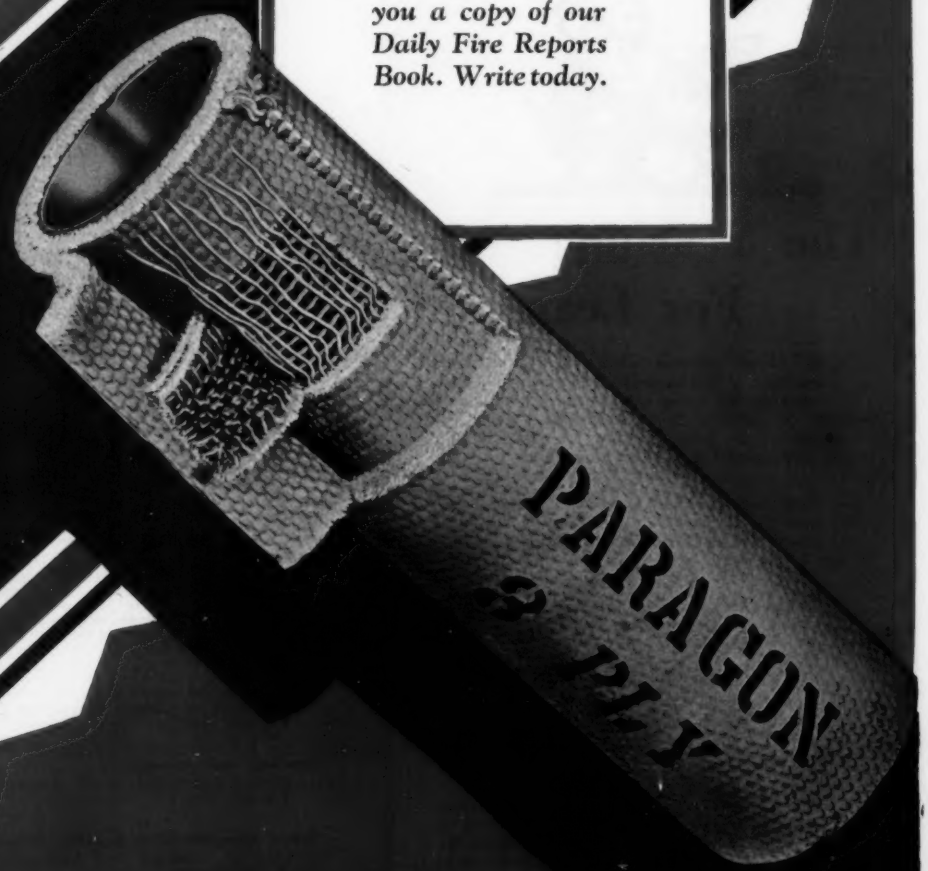

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The Publishers

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The Journal of the Fire Protection Profession

VOLUME LXXXIV JANUARY 21, 1931 NUMBER 2

Bridgeport Fireman Recalls

The Great Barnum-Bailey Circus Fire

P. T. Barnum's Pet White Elephant and a Number of Wild Animals Burned to Death—Flames Spread Rapidly Through Wooden Buildings

By THOMAS F. MAGNER

FIREMEN are more or less familiar with the dangers of falling walls and they are keen to detect the warning sounds that preface the destruction of a burning building. With wild animals things are different. It is impossible to foretell what the reaction will be when ferocious caged animals are in the midst of a roaring blaze. That is why the famous fire that destroyed the Barnum-Bailey Winter Quarters in Bridgeport, Conn., on January 10, 1887, forty-four years ago, stands out as perhaps one of the most thrilling incidents in firemanic history.

Edward B. Mahoney

All but one of the old time volunteer firemen of that era, who helped to fight this fire which destroyed the entire square block of buildings on Railroad Avenue. Wordin Avenue, Norman Street and Hanover Street, causing the death of three elephants, one tiger and a valuable hippopotamus, have passed out of the fire service. He is Edward B. Mahoney, attached to the fire alarm system of the Bridgeport Fire Department and the oldest member in years of service in that city. Fireman Mahoney's interesting description of the events that took place at the fire portrays many thrilling escapades with wild animals driven from their winter home through fire and flame.

"The Barnum & Bailey Winter Quarters fire occured on the night of January 10, 1887," said Fireman Mahoney. "It was in the main building which was two and one half stories high and built of wood. In it was located the ring barn, animal quarters and repair shops on the ground floor. The sleeping quarters and storeroom were on the second floor. Of all the animals, only 28 elephants, one hippopotamus and one lion escaped.

"The fire was discovered by 'Jack' Myers, a watchman, who was about to enter the car buildings. It originated in the ring barns at the north end of the structure, adjacent to the carriage house, and spread with such remarkable rapidity that the entire Bridgeport Fire Department was called to the scene. A fair breeze was blowing, from the west, and that portion of the building was immediately enveloped in flames. A blanket of snow covered the ground.

"The paint shop was soon ablaze and struck into the animal quarters adjoining. Fire reached into the elephant barns on Railroad Avenue. Two streams of hose were played into this part of the building, but without effect, the fire being too fierce even for the amount of water poured upon it.

"When the fire broke out, Ed Coles, foreman of the night watchmen, was in the elephants' quarters reading a newspaper. With him were Dan Baum, Otto Mobis and a man known only as 'Fencer.' William Newman, head trainer of the elephants, was in New York at the time. Baum, Mobis and 'Fencer' immediately set to work releasing the chained elephants. There were thirty-one in the quarters and twenty-eight were released before the flame reached that part of the building. 'Alice,' 'Sampson,' and 'Jim' the white elephant which P. T. Barnum prized so highly at that time, could not be released and perished in the flames.

"As soon as the news spread about the city that the winter quarters was ablaze, crowds began to flock in that direction, which is the southwestern part of the city. Spectators, fearing the danger attending the possible escape of wild animals, avoided the ground and

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gathered along the New Haven Railroad Company's tracks and atop nearby roofs.

"The elephant buildings burned like tinder and when it struck the paint shop the flames spread with marvelous rapidity. Fiery tongues shot into the air and myriads of sparks ascended skyward. When fire struck the animal quarters excitement reached its climax. Flames reached the lions' quarters first and went rapidly through that portion. What was going on could not be seen. It required only a little imagination, however, to picture the scene. Groans of distress told the story to spectators. The animals groaned and howled in agony as the flames enveloped them. When the fire reached the elephant quarters 'Alice,' 'Sampson,' and 'Jim,' the white elephant, were groaning ferociously.

"Our department was playing streams into the doors at the south-east corner of the building trying to keep the flames from the big animals. One lay on its side writhing in agony and the other two were rushing madly about in smoke and flames. When they occasionally turned toward the entrance, a sheet of flame cut off their exit, and when the space was cleared away, they were seen turned in opposite directions.

"The fire was too much for the firemen near the doorway and big 'Alice,' who had defied men and chains, succumbed to the fiery elements and perished in the flames. Her companions met a similar fate. This ended the destruction of the animals and the building was soon a heap of smouldering ruins.

"While the quarters in which the lions were kept was enveloped in flames, 'Tim' Buckley, a veteran trainer with the circus, entered the building. He reappeared, being driven out by the fire. A moment later, despite the warnings of firemen, he again entered the building and was heard calling loudly within. Buckley soon made his exit followed by a huge lion that appeared as tame as a house kitten. He stood in the door for a moment, looking leisurely to the ground and strode out after his keeper.

"A cry of alarm went up among the spectators. Persons on the elevated locations and along house tops viewed the scene with pleasurable excitement, but those on the ground turned pale with fear and retreated precipitously to fences while some rushed from the scene and did not return. A policeman at the fire drew his revolver and when the lion advanced he began firing, some of the shots taking effect. The lion was captured, placed in a pen, but escaped again and searching parties were sent out to hunt him down.

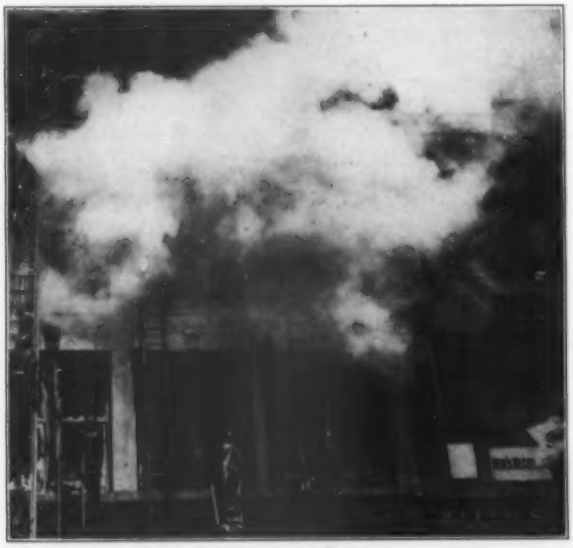
"The injured, panic-stricken animal roamed into the yard of the property of Chris Rickard, a truckman, who resided on State Street, some distance from the quarters, and entered a barn and was found devouring a calf which he had killed. He first attacked a cow and wounded it, but probably seeing the calf selected it as preferable prey.

"A Mrs. Gilligan, who resided in the Rickard home, was aroused by a strange noise issuing from her barn. It was like a human cry for help. She arose and dressed and when she went into the barn to ascertain the reason for the noise, she discovered the lion and punched it with a broom handle in an effort to defend her wounded cow. She kept punching the lion until he looked at her and roared. Discovering it was a lion, and not a dog as Mrs. Gilligan at first thought, she fled but not until her reputation for bravery was fully established. The circus authorities paid for the cow and calf.

"The only other animal to escape was a hippopotamus. He walked out of the building a moment before the flames reached his quarters and had everything to himself. He passed through a gate unmolested, but was badly scorched on both sides of the body. He recovered, I believe.

A checkup after the fire showed the loss of a zebra, two tigers, ten leopards, five panthers, six deer and a large quantity of grain and hay.

"The skeleton of Jumbo, famous of all elephants, is in the Philadelphia Museum where it was placed before the big fire but his skin, which cost thousands of dollars to mount, was in the carriage house. The skin was saved. Monkeys and a large number of wagons were also in the building. The monkeys were saved. A polar bear and a cage of hyenas were in the car sheds which escaped the flames. The origin of the fire has always remained a mystery. However, there was some talk at the time about a kerosene oil lamp being the cause but Coles, the watchman, maintained that the lamp was set on a bracket over a tank, of water and it was impossible for the fire to start from it."



Fighting a Celluloid Factory Blaze in Downtown Boston

Four alarms were turned in for a fire that spread rapidly through a celluloid umbrella handle factory in the downtown section of Boston. Slight damage was caused to two adjoining buildings and to others across an alley. Chief Fox estimated the total damage at $60,000. A large crowd collected to watch the firemen work.

HARRY BELKNAP.

Match Can Strike 600 Times

Dr. Ferdinand Ringer, a Viennese chemist, has patented a safety match which although the size of an ordinary match, may be lighted six hundred times by the normal process of rubbing the match on the phosphorous surface provided with the match containers.

Dr. Ringer discovered a new chemical mixture which is non-explosive. It is prepared commercially in a capsule-like case. Five or six of the new matches are equivalent to about 3,000 of the ordinary kind. The new match, it is said, is also suitable for tropical climates.

Canton, O., to Erect Fire House—Canton, Ohio is to erect a fire station costing $25,000. The building will be two stories high.

Cincinnati, O., to Erect Fire House—Cincinnati, Ohio, is to erect a fire station, one story high, to cost $40,000. The building will be of the bungalow type.

Zanesville O., to Reopen Fire House—The Hamline Avenue fire station of Zanesville, Ohio, which was closed during the summer in order to conserve fire hose, is to be reopened.

What Are the Advantages of Vocational Training of Firemen?

Objective that is Planned for Attainment by the Training School of the A. & M. College of Texas—Expect to Reach Every Fireman in State

By H. R. BRAYTON, Director of Firemen's Training School, of A. & M. College

The paper which follows, while primarily addressed to the firemen of the state of Texas, contains many important truths along the lines of firemanic education that will be of interest to others in the profession:

THE firemen of Texas along with the firemen of other parts of the country have recognized the imperative need of thorough education along theoretical as well as practical lines in the profession. No longer do we depend on the town pump and the bucket brigade. Hit-or-miss methods of fire-fighting have disappeared. The best company in a department is no longer determined by the quantity of water it can throw on a fire. Out of the ashes of experience has arisen a new order which we rightfully designate a profession. Modern living and modern industry have been achieved to the accompaniment of new hazards. The greatest hazards encountered by the "smoke-eaters" of the old steam-engine age were fuels such as wood, coal and kerosene. Fires above the second story were exceptional. Today the fireman works in a maze of high-voltage wires fighting a vast army of volatile and combustible fuels, solvents, cleaning mixtures, oils and lacquers. Large hospitals with new gases and anæsthetics minister to suffering humanity and storage rooms of X-ray films keep their records of human misfortune. The daily requirements of life are preserved in cold-storage and refrigeration plants. Large wholesale houses distribute our food, clothing and drugs. All these are indispensible in our modern plan of existence, yet each offers an additional fire hazard. Wonderful results are being obtained in educating the public to the dangers of modern hazards, yet "the best laid plans of mice and men gang aft aglee."

"The most natural requirement is that firemen teach fire-fighting methods. At the present time there is practically no text book material available for such instruction. No colleges offer courses of study leading to a degree in firemanship. As was demonstrated at our training school, pupils receive outlined, theoretical and practical training in fire fighting directed by experienced firemen. The fireman's task, then, is to transmit this information to the individuals of Fire Departments in the most efficient manner."

Modern Firemen Needed to Cope with Modern Hazards

Modern systems of education make use of lawyers to teach law, doctors to teach medicine and teachers to instruct in pedagogy. The most natural requirement, therefore, is that firemen teach fire-fighting methods. At the present time there is practically no text book material available for such instruction. No colleges offer courses of study leading to a degree in firemanship. As a matter of fact what college or university faculty has instructors qualified to teach technical methods of fighting fire? As was demonstrated last May at our Training School, the A. & M. College made no attempt to instruct the visiting firemen in highly theoretical and abstract conceptions of fire fighting. In plain language the "high-brow" instruction was conspicuous by its absence. The pupils received outlined theoretical and practical training in fire fighting directed by experienced firemen who were recognized as being real leaders of firemen. Just as every wheel must have a hub, so must every progressive move have some initial point.

Function of College in Training of Firemen

I feel that the function of the college in the training of firemen is two-fold in nature: *First,* it acts as an assembling point at which the firemen of the state may gather and call their own. While attending the course the work is outlined and presented by experienced instructors — well known professional firemen. *Secondly,* the firemen are given instruction in how to teach modern methods to the home departments. Since a college specializes in the best methods of putting over its courses of study, I feel that through professional firemen in cooperation with the department of Vocational Education, the college is particularly qualified to assist you in your training program.

Large industries and organized professions are finding this assistance offered by State and Federal Boards of Vocational Education as outlined by the Smith-Hughes Act of exceptional value to their organizations. In many cases such vocational training is required of all employees. Such an opportunity cannot well be overlooked by your profession. A man may be highly trained and may have accumulated years of valuable experience but if he is unable to transmit this to his fellow workers it is carried with him to the grave. The fireman's task, then, is to secure the information from men who know and then to transmit this information to the individuals of fire departments in the most efficient manner.

Individual Responsibility and Initiative Important

There is a type of education that does not come from schools. The rarest and most valuable of human qualities are resourcefulness and dependable judgment. They can be acquired in part by education, in part by experience. They can be enhanced by industry and honesty. But wisdom (for such it really is) is largely a born virtue. None of us has too much of it—few have enough. I mention this in connection with education because I have a firm belief that there is a way by which the effective wisdom of every fireman may be greatly increased and their value as leaders enhanced and that is

to encourage and to require the men in the performance of their duties to think and to act on their own responsibility. This quality of American men it was which clashed with the machine-made and clock-like automatic discipline of the German soldier, and you know the result.

Plan Training of All Firemen

The program of training as contemplated by the A. & M. College has as its aim the training of every fireman in every department in every city in the state of Texas. This is indeed a mighty task and its success rests with the firemen of the state. I feel confident, however, that wonderful results are to be obtained. From all corners of the state come enthusiastic and encouraging letters. The attitude of officers of departments in the large as well as the small cities may be summed up about as follows—"I am a fireman, this is my profession and I am proud of it and it is my life's work. Anything to improve the profession and any way in which I am able to help this program—I am strong for it."

A second Training School will be held at the college in the early spring. Profiting by the experience of last year this school will be held for a period of about four days.

Proposed Permanent Plan of Training

A very important matter which we expect to consider at this meeting is the inauguration of a more complete and comprehensive future training program. Assume that 150 cities are represented at this school. What are we to do for the 300 or more departments not receiving the benefit of this training? Here is the substance of our proposed permanent plan which we hope to discuss at this meeting.

1. Every city in the state is urged to send at least one representative to each session of the Training School at College Station. As many men from each department may attend as desired, but one particular man, either chief, assistant chief or drill-master, is to be responsible for the transmission of this training to his home department.
2. The number of sessions held each year will be decided by the ability of the men to attend. If possible, four meetings annually are urged.
3. Intensive training along special lines of fire-fighting will be given each man. Duplication of work in succeeding meetings will be avoided. Instructors selected will be firemen who are thoroughly trained and experienced along various lines.
4. The course of study will be selected and outlined with the view of putting over a system of training recognized as standard by state and national organizations.
5. Printed lessons will be prepared for use during the school and for the home departments. These lessons will outline a regular course of study to be directed by the chiefs or drill-masters on their return home.
6. The State and Federal Departments of Vocational Education by their cooperation will train these chiefs and drill-masters not how to fight fires but how to most effectively teach your standard methods.
7. On completion of the Training School the chiefs and drill-masters will be designated as Vocational Instructors. Smith-Hughes funds will be available whereby these instructors will draw pay for their time spent in training their home departments.
8. At a certain designated time, on completion of the first series of drills, these same instructors will again report for another Training School and new work will be given.

Benefits to Be Derived

What are the benefits to be derived from such a system of training? Not only every department, but every individual fireman in the state of Texas will receive systematic and standardized training from firemen who are qualified to handle this work. Every individual fireman will be improving himself in his profession. Departments which already have their own Fire School will profit by contact with other members of their profession. They will gain teaching methods of putting over their training, which have been worked out in other professions and large industries. All will profit by the latest developments in fire-fighting methods. As more effective fire offense is developed over the state, life and property loss will diminish. One human life saved will more than repay all efforts.

(Excerpts from a paper read before the semi-annual meeting of the East Texas Firemen's Association at Orange, Tex.)

Fire Defeats Work of Junk Dealers and Wreckers

A fire of disastrous proportion broke out on board the Empress of Scotland as she was lying in Blyth Harbor, Northumberland, waiting to be broken up. The boat had been purchased for £60,000, later to be broken up. The photograph shows the fireboats attempting to control the blaze.

Total Fire Loss Increased in 1930

According to an announcement made by the National Fire Protection Association, the total fire loss in the United States for 1930 is in excess of the 1929 total. The association takes some satisfaction in the news that there were only five fires that caused property loss exceeding $1,000,000 as compared with fifteen in 1929 and twenty in 1928.

Preliminary estimates on the basis of reports to insurance companies place the 1930 fire loss at $465,000,000, about 10 per cent greater than in 1929. In view of reduced commodity costs during last year, the association states that it is likely that the actual comparative loss in burned property, especially stocks and merchandise, may be considerably greater than indicated by the figures.

The biggest fire of the year was that in Nashua, N. H., May 4, which destroyed more than 300 buildings, rendering 322 families homeless. Other big fires which were almost of the proportions of general conflagrations were that which swept the business distict of Gore, Va., on August 5, and that involving several mercantile buildings at Waukegan, Ill., November 16.

In March, the New Orleans wharf district suffered two fires less than ten days apart involving a total loss of more than $3,600,000. Many lumber mills contributed heavy losses, and nearly all of these properties, according to the association, were poorly protected against fire.

Sixty-five fires throughout the country involved losses of more than $250,000 each. The association notes that a large proportion of these fires occurred at points beyond the limits of a municipal water supply or organized fire department.

Everett, Wash., Opens Ladder Bids—Everett, Wash., has opened bids for supplying a ladder truck.

Auburn, N. Y., Working on Fire House—Auburn, N. Y., is working on the construction of a new fire station which it is hoped to have completed during the summer.

Savannah, Ga., Has Low Fire Loss—John H. Monroe, head of the Fire Department in Savannah, Ga., reports the lowest fire loss in the history of the Savannah Fire Department since it was made a paid organization in 1887. The losses within the city limits were $51,000, as compared with a loss of $169,000 for 1929.

THE ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

UNLIKE other city departments that are organized to care for existing or future problems, the Fire Department is a division conceived and maintained because of emergencies that may arise.

Therefore any plan that will better fit the department or its men for emergency service is a good one to follow.

Very often, especially in the smaller or volunteer departments, a company is handicapped because some driver has failed to respond or because he was not at the house when the call was received.

This brings up the question that appears in the box on this page. In the box on the following page is the problem that will be discussed in the next issue. Should you have some comments that you would like to add to the next discussion, you are invited to write to the "Round Table Editor," FIRE ENGINEERING, 24 W. 40th Street, New York, N. Y.

Discussion of the Problem

The dangers resulting from naming a driver by means of popular election are universally recognized. Most of the companies have a reserve supply of drivers so that the company will function smoothly. The replies follow:

John Beck, Chief, Lehighton, Pa.: In a volunteer fire department every member should be able to drive and operate the fire apparatus.

The drivers are held responsible for the apparatus insofar as the working order is concerned but the driver is not always to blame for mechanical trouble at a fire.

I believe it is best to elect the drivers in a volunteer fire department due to the jealousy that appointments may arouse, and it would be apt to cause poor service at fires. It is essential to promote good will among the members and in doing so they will all work together. In a paid department I think it would be a better plan to appoint the drivers.

Wm. Coulter, Chief, Framingham, Mass.: In my opinion, every member of the company should be instructed and taught how to drive, this being very essential particularly in a small department. This should include the officers as well as the privates. I do not believe it is good policy for officers to drive except in an emergency. I have found that where officers had to drive, the members lost the respect due to the officer, and a good executive must be able to command that. You cannot have too many drivers to meet all emergencies.

The responsibility for mechanical trouble is a hard thing to place, as often trouble develops when least expected, in spite of all the vigilance to prevent it, as I have found in the Framingham Department. I have an auto mechanic, who is responsible for keeping the different pieces of apparatus in good serviceable condition. In spite of this it would not be reasonable to hold him for all troubles in view of the fact that different types of men operate the apparatus, of different temperaments and views. Of course we try to have the men best fitted for this particular duty. We observe their work and keep the best ones, eliminating the poor ones. In that way we get along with very little trouble. In conclusion, I would advise, where a department can afford to have a mechanic, when making the selection, get the best. He is cheaper, in the long run, than a man who works for small pay. Paying a man for his work is a great incentive for a man to give his best. We are fortunate enough to have a man of this type to fill the position.

Our drivers are appointed by the Captains with my approval. If at any time he fails to meet the requirements we put another man in his place. This arrangement keeps the spirit of the position alive. Electing a man to this position is wholly out of keeping with the present day methods in a permanent department, in my opinion. I would not change this method unless I can be shown something better.

HERE IS THE PROBLEM

Should every member of the company be trained to drive fire apparatus or should just a few men and officers be instructed?

Who is held responsible when mechanical trouble develops?

Are the drivers appointed or elected, and do you believe your plan is a good one to follow?

R. H. Bowker, Chief, Passaic, N. J.: All the men in our department are instructed to drive when they are appointed. This assures us of drivers at any time.

We have a very completely equipped machine shop, with a master mechanic and helpers. The force in the shop is solely responsible for the condition of all fire apparatus.

After the men have been thoroughly trained to drive, two men are appointed by me from each shift, but in case of illness of one of the regular drivers, any member who is capable is put in his place.

Olander Lind, Chief, Kansas City, Kans.: In my opinion, every member of the company should be trained to drive and operate the apparatus. In our department every apparatus has an extra driver on each shift to take the place of the regular driver. In this way we are always sure to have a man who is familar with that particular apparatus.

The responsibility of mechanical trouble rests with the driver or the mechanic. It all depends upon what kind of trouble exists. Our drivers are required to inspect their apparatus after each run, and if something breaks on the next run and it does not show a fresh break, then of course the driver is held responsible.

Our drivers are appointed from an eligible list of chauffeurs by the Civil Service Board. I think our plan a good one, although at this time we have some very good drivers on our department that were trained before this plan went into effect.

J. H. Speddy, Chief, Lakewood, Ohio: We do not think that every member of a company should be trained to drive apparatus, as frequently they are not temperamently constituted to make good drivers.

The driver or master mechanic is held responsible when mechanical trouble develops.

Drivers are appointed because of their particular fitness for that position. The men best suited are selected and assigned to the various companies as well as for fill-in drivers, necessary on account of illness and vacation periods.

F. B. Moore, Chief, Nashville, Tenn.: I do not believe that every man in the company should be trusted to the driving of fire apparatus. Only those who can qualify, and prove competent should be entrusted. The engineer

and assistant engineer are the regular drivers, and a man on each shift is used for relief when he can be tested out and proves capable of manning apparatus and handling pumps.

The engineer is held responsible for the apparatus and its mechanical condition. The assistant engineer reports to him.

Our engineers and assistant engineers are promoted from the ranks of pipemen and laddermen who have acted as relief drivers. We believe this method to be the most satisfactory. It brings experienced men to the fore when vacancy occurs.

F. W. Fuller, Chief, Brainerd, Minn.: As all members are trained in evolutions and all other operations of the department, it is my opinion that they should be trained in the care and driving of apparatus as well. It is said that an emergency is only the lack of an intelligent preparation, and therefore training men in all branches should be one of the preparations.

If mechanical trouble could have been avoided by inspection or a report of previous trouble and such had not been done, it is my opinion that the driver or drivers should be held responsible.

Our drivers are appointed and I believe that is the proper way to have qualified men as drivers and operators. I think a well qualified man is necessary as operator, as the whole function of a fire department depends on the apparatus arriving in a reasonable time with no accidents.

H. M. Topping, Chief, Whittier, Cal.: I believe that every member of the department should be qualified to drive and handle every piece of apparatus. There should be assigned a driver or engineer of each pumper and ladder truck who should be held responsible for the care and maintenance of such apparatus under the direction of the officer in charge of the company. He should see that his apparatus is ready at all times to respond to a fire call and the apparatus should be in good working condition every hour of the day. Should apparatus require repairs, the fact should be reported to the officer in charge, and if the repair is such that immediate work cannot be made, conditions as they exist should be reported to the chief of the department for his consideration.

The engineer or driver in charge of apparatus is held responsible when mechanical trouble develops until it is reported to commanding officer of company. The officer then assumes the responsibility.

Drivers should be appointed by the Chief of the Department who should thoroughly examine these men to determine their qualifications before assigning them to the position. I believe this a good plan to follow in departments where the drivers do not receive their appointments through civil service examinations.

Chas. E. Fortin, Chief, Lewiston, Me.: We believe that every capable man should be trained to drive and operate pumps on every piece of fire apparatus. In our department we have at least three men on each machine who can drive and operate, these men are also trained to drive and operate all other machines in the department so that they may be transferred in case of accident or sickness without further instruction. Every man on aerial or other ladder trucks are trained to drive front end and tiller and also trained in the operation of triple combinations.

The officer having best mechanical knowledge of automobiles and engines is appointed by the Chief Engineer, and is held responsible to the chief or master mechanic as the case may be.

All drivers and operators are appointed by the Chief Engineer, and we believe this to be the only efficient way to follow in order to get the best results. We cannot see why a driver should be elected to his position under any circumstances.

HERE IS THE PROBLEM FOR THE NEXT ISSUE

Is your department ever called to drain water from cellars, and if so, what type equipment is used?

Do you believe a charge should be made for this work?

Should this work be done for other city departments?

J. S. McKinney, Chief, McKinney, Tex.: We have two regularly employed drivers for pumpers, also two relief drivers. Ours is a volunteer department consisting of twenty members, and we have six men other than the regularly employed drivers who have been trained to operate our pumpers. I do not believe it would be practical to train each member of a fire department to operate apparatus because some members of our department (and I take it to be the same in other departments), are of a very nervous temperament and I believe not suited to operate high powered motor apparatus. Physical defects bring up another serious reason why all members of a fire department should not be trained to handle fire apparatus.

The man regularly in charge of the apparatus is responsible for the performance of said equipment.

Our drivers are employed by the city commission and do not necessarily have to be members of the fire department.

Bert Sybrant, Chief, Bellingham, Wash.: We train every member of our company to learn to drive apparatus, and find it convenient in case of an accident or if we want to move apparatus and also in case of illness. We have two men assigned to this task, one on each shift.

Our master mechanic has charge of all apparatus and whenever trouble develops, it is reported to him.

Our drivers are appointed, and they are selected as to their fitness and ability to handle the apparatus they are to drive. I believe it would be a grave mistake to think any one could drive fire apparatus.

W. J. Mohr, Chief, Santa Monica, Cal.: I believe that all fire department members should be able to drive apparatus. It is our practice here to let the relief drive or hoseman drive the truck when returning from a fire alarm. Once each week we have a trial run, a different route being followed each time, when all members of company are given an opportunity to handle apparatus. We also have a drill once each week, and all members learn to spot apparatus at hydrant and hook up. Once a month we have a wet drill, all hose off, and dry reloaded, the engine being used.

The chief mechanic or driver is responsible for apparatus when trouble develops, according to the nature of the defect.

Drivers are appointed through civil service, and if they don't continue to make good I remove them on charges. I believe our plan is the best and wish to advise all cities to pattern after us.

J. R. Eldridge, Chief, Johnson City, N. Y.: Every man in every company must know how to drive. When a man is assigned to a company, the first thing he is taught in my department is to drive the motor apparatus. Driving lessons are given in the following manner: Company captain takes student out with apparatus day after day until the captain is satisfied the student is capable of handling the equipment. He then brings both apparatus and student to the chief for a final test. If the student receives the chief's approval, he is detailed to drive back to quarters after each fire for a month. He is then ready to drive, drivers being changed each week.

Our chief master mechanic who ranks as captain is responsible for equipment when mechanical defects develop.

Drivers are appointed when they prove themselves competent, and I find our plan to be quite satisfactory.

In the above I am speaking for a full paid department only, and if a volunteer department were involved, I would say a certain few men should be detailed as drivers and selected according to their fitness by the chief of the department.

A. McC. Marsh, Chief, Columbia, S. C.: It has been my experience with motor fire apparatus that only men trained should handle fire apparatus as drivers. It is our rule here to make a driver out of a fireman. We have a little

(*Continued on page* 64)

With the Editor

Lack of Funds Versus Fire Efficiency

How often it has happened that Fire Departments have been hampered—when improvements in the system have been planned by the Chief—by the authorities of the city deciding that lack of funds or a necessity for economy demands the foregoing of the plans. Why is it that city fathers, when they wish to economize, almost invariably turn among the first to the Fire Department of the municipality for this purpose?

An instance of this kind has just come to notice. The Fire Commission of the city of Los Angeles, Cal., recently requested the City Council for an appropriation of $21,200 for the purpose of installing a selective fire alarm system, whereby the bell would only ring on the first alarm in the station in whose district the fire was situated. At the present time the alarms ring in all stations and the consequence is that the men must assemble on the apparatus at the tap of the gong, whether they are going out or not. When this occurs with frequency at night it is rather disturbing to the firemen's rest.

However, the Council decided that there were no funds that could be used for the installation of the new system, and in consequence Chief Scott must be satisfied to wait for the needed improvement until the city can afford to install it.

When the efficiency of the Fire Department is at stake—and men constantly disturbed at their rest cannot be expected to be on their toes at all times to the extent that those enjoying full rest would be—it would seem that no expense should be spared to effect the desired result.

Speaking Well of the Firemen

As a general rule, the city press and the public are apt to take the Fire Department very much for granted. The department has its duties to perform and if these are well attended to, well and good—that is what the Chief and his men are there for! Of course, if a fire gets away from the department or anything goes wrong that is a different matter.

It is particularly refreshing, therefore, to find a daily paper going out of its way to commend the Fire Department and its Chief editorially. The Pine Bluff, Ark., *Commercial*, an evening paper of that city, recently published the following encomiums on the local department:

There's something substantial, something safe and secure about a fireman. The kind of fireman, who swings from the rear of a speeding truck with one hand, while he completes dressing. The kind of fireman, who stands ready twenty-four hours a day to protect your property even with his life if necessary. There is something about him which makes you glad that he is around. If I had some fighting to do, I'd like for a fireman to do it for me. If I had a stove to put up, I'd like to have him tackle the job. A fireman can do anything.

* * *

Yesterday a group of ladies wanted a Christmas tree replanted in the center of Main street at the intersection of Barraque. They called on the firemen. The task looked almost impossible. But not to a fireman. In a jiffy they had the tree planted, braced and ready for decorations. It seemed so easy. They seemed actually pleased that they were called on. Perhaps that's what I mean by a fireman. He's always ready and willing to pitch in and do his part.

* * *

Maybe you wouldn't mind if I'd tell you something about our fire chief. Last summer, you remember, when it was so hot and so dry, Chief Alford asked Mayor Holderness for permission to promote a scheme to aid those who were sick in Pine Bluff. He found out a list of those who were bedridden and whose homes were on dusty streets. Every few days he got a sprinkler out and settled the dust near the homes of these folks.

* * *

During the fair a fireman won first prize in canned goods. While the wife was out of town he put up some preserves. His exhibit was declared a winner. I tell you those boys can do anything. I hope the time will never come when it is necessary to cut down the force, or cut their salaries. For a very small monthly salary they perform a service that is indispensable to a community.

* * *

Even if they had no fires to fight, a fire department would almost be a necessity. Because when there are no fires, the boys can mend your backdoor step, fire your furnace and keep your baby. All you have to do is call on those boys. They'll make you feel ashamed for not having called on them before. They're a great bunch of fellows. And Pine Bluff has the best of 'em.

* * *

If the daily press of other cities would pattern after this evening paper and devote an occasional article giving the public the intimate and human side of the Fire Department, it would help not only in popularizing the fire-fighting forces of the city but would undoubtedly react to bring the all important subject of fire prevention to the attention of the people.

Efficient as is the present day Fire Department, with its scientific methods of fighting fire and its splendid motor apparatus, it cannot be denied, as far as the public is concerned, it has lost much of its glamour with the passing of the fire horse, with its flowing mane and rattling hoofs, dashing along the avenue to a fire.

The town newspapers can do much by such articles to help to restore this interest of the public and can, at

the same time, emphasize the importance of the place that the department takes in the economy of the city government in conserving the lives and property of the people.

Protection of the Forests

The increasing interest in forest fire protection is shown by the fact that in twenty-one of the states of the Union the wooded lands to the extent of one hundred per cent are under some sort of protection. This is either through the state forestry departments or the United States Forest Service of the Department of Agriculture.

During 1929 more than 31,000,000 additional acres of forest land were brought under some form of control, thus preserving just so much more of the invaluable timber of the nation, and insuring the continuance of water supply to regions furnished by means of streams and springs. Of a total loss by fire in forests for that year of over one hundred and two million dollars, nearly eighty-eight million occurred upon lands without fire control service, while only a little over fourteen million loss was on lands so protected.

A significant fact in connection with forest fire losses for 1929, as brought out in a recent report by the United States Forest Service, is that the greatest cause of forest fires is the carelessness of smokers and campers who fail to extinguish camp fires before leaving. This is, perhaps, one of the greatest, if not the most pressing problem that the Forest Service has to overcome. The severest penalties should be meted out to the individuals who, through thoughtlessness and indifference, cause a forest fire to occur. Not only does it mean immense damage to valuable standing timber; it may easily mean the destruction of towns and even cities in the path of the flames and is pretty sure to involve residences built in proximity to the wooded lands. Loss of life too is very apt to result from a forest fire that has gotten beyond control.

Driver Killed When Fire Apparatus Overturns

The driver of fire apparatus in Ardmore, Pa., was killed when the apparatus overturned while speeding to a fire. The machine went past a red traffic light and struck an automobile which was coming at a right angle. The apparatus overturned and pinned the driver beneath it. He died shortly afterwards in the Bryn Mawr Hospital.

INDEX TO VOLUME LXXXIII

The Index to Volume LXXXIII, FIRE ENGINEERING, from the January 8 to the December 24, 1930, issues, is now off the press and will be mailed to readers on request.

Assistant Chief of Parsons, Kan., Retires

Alexander L. Taylor, seventy-three years old, resigned as assistant chief of the Parsons, Kan., Fire Department, after thirty-five years service.

The firemen held a party for Chief Taylor and the veteran's eyes welled up as the men with whom he was associated for so long a time told him how much they valued his friendship and how pleasant it was to serve under him. He was presented with a solid gold badge. Mr. Taylor was the oldest man in days of service exceeding Chief W. A. Buel, head of the department, by eleven months.

Chief W. A. Buel
Head of Department

A. L. Taylor
Former Asst. Chief

He started as a regular fireman on June 11, 1895. Actually he was a member of the old volunteer department in 1886 and he served for five years. He was out of the service for a few years and then joined the regular department in 1895. In 1907, Taylor became assistant chief.

W. E. Boyd takes Mr. Taylor's place as first assistant chief and G. C. Winters becomes second assistant chief.

Chief Burbach, of West Allis, Dead

Peter H. Burbach, head of the Fire Department in West Allis, Wis., for twenty-three years and a member of the force since the department was organized, died in the St. Mary's Hospital at the age of sixty. He recently underwent an operation for appendicitis.

He was born in New Berlin but moved to West Allis when he was a young man. When he became a fireman, the department consisted of only a few volunteers. At present there are twenty-seven full time firemen.

Chief Burbach was a member of the Catholic Order of Foresters and the Catholic Knights of Wisconsin and was very active in church work. He is survived by his widow, four sons, two daughters and a brother.

Finds Another Fire While on Roof—While Deputy Chief Arthur Chambers of Yonkers, N. Y., was on a roof directing operations at a fire which awoke seventeen families, he saw the reflection of another fire in the sky. He called headquarters and learned that no alarm had been turned in and so he took a company of firemen and rushed to the second location. A fire was found in its incipient stage which would later have threatened the business district.

NOTE—Readers are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified

New York's First Fire Department

To the Editor:

If possible I would appreciate your advising me when the first volunteer fire company was organized in New York City. Also, when the present paid department was started, or any other information that you may have relating to this subject?

M. J.

Answer: The volunteer fire department was organized in New York in December, 1737. It was in that month that the general assembly of the Colonies passed an act enabling the corporation of New York to appoint "not more than 42 able, discreet sober, men as firemen; an equal number to be appointed out of the six wards on the south side of Fresh Water." An innumeration of the trades of 28 will be interesting, and is as follows: Blacksmiths 4; blockmaker, 1; cutter, 1; gunsmiths, 2; corksmiths, 5; bricklayers, 2; rope maker, 1; carmen, 2; coopers, 4; bakers, 2; cordwainers, 4.

The paid fire department in New York city was organized by an act passed on March 30, 1865. The Act provided for a metropolitan fire department including fire departments in both Brooklyn and New York City.

For information on the early history of the New York Fire Department, you are referred to "Our Firemen, A History of the New York Fire Department," published by Augustine E. Costello.

Explanation of Factors

To the Editor:

Below are two questions which have caused considerable discussion among the men in this station. Will you please answer them in your Questions and Answers column?

1. Explain the meaning of the constant 1.1 that is used in all hydraulics. Also how do you arrive at 1.1?

2. Explain how and where you get different constants you use for the different size nozzles.

D. G. L.

Answer 1: Answering your first question, the factor 1.1 has no particular meaning, and is employed only because it is necessary in a formula to give results which tally with experimental results.

In other words, where an empirical formula is developed, it is developed to check results which are already known. In this particular instance, the factor might have been anything else but 1.1—if it gave results corresponding to experimental results—but it so happens that 1.1 is the only figure which will make the formula produce answers which tally with actual results, and it is therefore employed.

Answer 2: The constants for different size nozzles are employed for the same reason that the factor 1.1 is employed, namely, to produce results which tally with experimental figures.

Ignition of Gasoline

To the Editor:

Just to settle a dispute will you kindly advise me if gasoline can be set afire by heat. For example, if gasoline were dropped on a hot surface or if a hot piece of steel was dropped into a pail of gasoline, would it set fire?

M. C. J.

Answer: Gasoline itself does not burn but, instead, the vapor from gasoline is the part which supports combustion. If a piece of hot iron, well above the temperature of the ignition of gasoline vapor, were dropped into a pail of gasoline, it would ignite the vapor over the surface of the gasoline and the vapor would burn, as well as other vapor subsequently generated by the gasoline.

If gasoline were dropped on a hot surface the temperature of which is above the ignition point of the vapor, again the vapor would ignite.

Of course gasoline vapor is gasoline in another form but it is assumed that you refer to gasoline in its liquid state.

Hydraulic Calculations

To the Editor:

I am particularly interested in fire department hydraulics, which is a great aid in scientific fire fighting. There are those who cannot see the value of this subject due to the fact that they do not fully understand how it is applied, particularly at fires. For this reason I am submitting herewith for your approval and comment an example of quick calculations whereby the knowledge of hydraulics may be applied at fires and thus develop better judgment in the use of streams. The system which I have developed is based upon memorizing certain factors needed in finding required engine pressure at fires; factors about equipment at hand, the size of nozzle, and the desired nozzle pressure for such nozzle, also the discharge in gallons per minute at required pressure; friction loss per hundred feet carrying a specified flow in gallons per minute.

For example we know a nozzle is 1⅛ in. and that the required pressure of this nozzle must be at least 40 pounds. Again, that 40 pounds pressure on a 1⅛ in. nozzle represents a discharge of 237 gallons per minute; also that the friction loss for this flow will be approximately 14 pounds per hundred feet. If we have proper knowledge of these figures, and have them upon our finger tips upon arriving at the fire the calculation is simple. For example we may run off 300 feet of 2½ in. hose. Using the above figures we say that the friction loss will be 3 x 14 or 42 plus 40 pounds nozzle pressure giving us 82 pounds pressure required at the engine.

While these figures are not exact, they are near enough to give results that will avoid any serious error in operating the pump.

This system can be applied anywhere, the factors are known or taught about equipment you are using. Where a line is elevated we would have to consider the back pressure of .434 pounds per foot or about 5 pounds to a story. Factors for water towers would include the back pressure, friction loss, nozzle pressure, siamese friction loss. These added together give the engine pressure. Again I wish to point out that it is essential to have modern equipment such as pumpers, water towers, aerial ladders, deck guns, etc., under the guiding hand of intelligent trained men. Such training would include practical as well as a technical knowledge of fire department hydraulics.

Editor's Comment: Hydraulics as taught by the various text books is of value chiefly in developing judgment on the part of students. Formulas such as are encountered in these text books are not applicable to use at the scene of a fire. It is necessary to employ a shorter method, and that is just what you have done.

The figure of 5 pounds per story for back pressure is ap-

proximately correct, the figure 14 pounds for a flow from a 1⅛ in. nozzle at around 40 pounds pressure is about correct.

Of course there is one difficulty with quick calculations of this sort and that is where we have large varieties of nozzle sizes and pressures varying from 40 to 100 pounds. Under these conditions we have a tremendous number of factors to remember.

DIRECTORS SET OCT. 14-17 FOR I. A. F. C. CONVENTION

Officers Visit Havana to Make Arrangements—Meeting of Directors in New York City Well Attended — Tentative Convention Program

CONSIDERABLE optimism concerning the welfare of the International Association of Fire Chiefs during 1931 was voiced at the meeting of the Board of Directors and officers held in New York City, January 13. Officers of the association returned from Havana where they had gone to make convention preparations, in time to attend this meeting.

Those present included President, Joseph N. Sullivan, Utica, N. Y.; First Vice-President, D. W. Brosnan, Albany, Ga.; Second Vice-President, Richard Lee Smith, Pittsburgh, Pa.; Recording Secretary, James J. Mulcahey, Yonkers, N.Y.; Treasurer, Peter B. Carter, Camden, N. J.; Directors, Robert A. Bogan, Baton Rouge, La.; Raoul Gauthier, Montreal, Que., and George W. Hedden, Buffalo, N. Y.; Chairman of Exhibits, Charles A. McGinley, East Orange, N. J.; I. H. Case, Publicity Manager, and Fred Shepperd, Headquarters Manager, New York City

Chief John Kenlon of the New York Fire Department was on hand to say a word of welcome to the delegates, and to enter into the deliberations.

A committee of Chiefs Sullivan, Brosnan, Smith, Mulcahey and McGinley went to Havana to investigate convention facilities and they reported to the Directors.

Upon motion by Chief D. W. Brosnan and seconded by George Hedden, the Plaza Hotel, Havana, was selected as the headquarters hotel. Rates at this hotel during the convention will be $4 for a single room and bath and $3.50 a person for a double room and bath. October 14-17 inclusive were selected as convention dates.

The meeting hall will be in the Centro Asturiano Club, the third floor of this building being occupied by an auditorium seating 5,000 persons. The meeting hall is 1½ blocks from the headquarters hotel.

An automobile showroom containing 4,000 square feet of floor area, in the form of an L and badly obstructed by columns, is the only exhibit space available. It is therefore possible that there may be no apparatus exhibits in Havana.

Chief Brosnan, Chairman of the Finance Committee, reported the progress made thus far in the Association's $100,000 drive for the Educational Committee Program. Letters of instruction have been distributed to the various district officers and early results are anticipated. Some of the district presidents have already reported that action is under way with promise for early results.

The first honorary life membership has been secured by Chief Brosnan from the Fulton Bag & Cotton Mill. They wired that although they were sorry to miss being the first one so enrolled, they were sending a $100 check and wished to be second on the list.

Upon motion of Chief Brosnan, a resolution was adopted unanimously to the effect that an official Association membership card as well as a certificate be presented to each honorary life member. This card will be in the nature of a courtesy card and will bear the seal of the association. The certificate will follow the style of the membership certificate except that in place of the word "member" it will bear "honorary life membership."

A tentative program for the convention has been outlined, even though the event is nine months away.

On the first day there will be a parade, meetings, and in the evening a banquet at the Centro Asturiano Club. Meetings will be held on the second day with a buffet dance and typical show in the evening at the Plaza Hotel. On the third day there will be a meeting in the morning, sightseeing in the afternoon, and the evening left open for one's individual pleasure. The last day is set aside for the election of officers, luncheon at the Tropical Gardens and a sightseeing trip.

A very pleasing tentative program has also been outlined for the ladies. Their headquarters will be at the Hotel Sevilla-Biltmore. The ladies, on the first day, will meet at the Sevilla-Biltmore Hotel, have a meeting or Encanto Tea in the afternoon and join with the men in the evening for a banquet. A meeting will be held during the morning of the second day. Nothing has been arranged for the afternoon but in the evening they will enjoy a Cuban show and a dance at the Plaza Hotel. The third day has been set aside for shopping with sightseeing in the afternoon. The evening is free. The program will end with a Tropical Gardens luncheon and sightseeing trip during the afternoon of the fourth day.

Chief Conway, of East Porchester, Dead

Eugene Conway, Chief of the East Portchester, Conn., Fire Department and one of the best known members of the Connecticut State Firemen's Association, was instantly killed on January 16 while viewing a previous minor automobile accident on the Boston Post Road. Chief Conway was among a group standing at the edge of the state road when a car driven by a New Haven resident crashed into the group. Two persons were also injured.

Chief Conway was fifty-eight years of age and resided at 292 Delevan avenue, East Portchester. He was a member of the East Portchester Volunteer Fire Department for a number of years and at the time of his death was head of the organization there. He was active in Masonic circles and a member of the Westchester County Fire Chiefs' Association. He is survived by his wife and two sons.

THOMAS F. MAGNER.

Former Des Moines Drillmaster Dead

W. C. Walker, appointed as the first fire department drillmaster in Des Moines, Ia., and due to take office as sheriff, died in the Iowa Lutheran Hospital on December 29 following an operation for appendicitis. He became a member of the department in 1914 and resigned in 1923. In 1927 he was elected Superintendent of Public Safety. He started the first ten-day school for prospective firemen. Mr. Walker was a friend of the city's poor and performed a large amount of charitable work.

Firemen Urged to Watch for Arson

Grand Rapids, Mich., is experimenting with a plan by which all firemen are urged to watch for arson evidence and are schooled in the arson law.

For some time arson investigations were conducted by department and company officers. On many occasions it was necessary to interview the men who responded with the first company in and saw conditions at that particular time. To simplify matters, every man was made an investigator.

Battalion Chiefs were provided with enough copies of the state arson law to supply to his men, and a law school is conducted where past arson experience is reviewed. Each man knows that he is part of the new order of things and therefore takes a keen interest in conditions encountered.

One result of the new plan is that each fireman is careful not to disturb things.

Last year the department secured four arson convictions, and in another case a man "jumped" his bail. Evidence, in other instances, was secured to hold up insurance payments but not sufficient to obtain an arrest. In other cases where the department was active, the insured dared not ask for amounts first contemplated.

Extinguisher Company Now in New York

Under the heading "Correspondence," in the December 24, 1930, issue of FIRE ENGINEERING reference was made in a letter from Chief Van Zant, of New Castle, Ind., to his inability to locate the American Fire Extinguisher Company at Atlanta, Ga., which address appeared on containers in which extinguishers were shipped. This concern, a growing manufacturer of extinguishers, was located in that city up to about four years ago. Its headquarters office and factory is now at 246 W. Fordham Road, New York City, which address all extinguisher now produced by that concern bear. The American Fire Extinguisher Company has enjoyed a steady growth over a period of nearly a decade, and numbers among its customers such industrial leaders as Bethlehem Ship Building Corporation (E. Boston, Mass.), Westchester Lighting Company, etc.

Ex-Chief Rose, of New London, Dead

Ex-Chief Charles H. Rose, of the New London, Conn., Fire Department, one of the best known firemen in New England, passed away at his home, 11 Rosemary Street, New London, on January 8, at the age of seventy-four years. The veteran chief, an active fire fighter for 54 years before his retirement from the department in 1927, was a victim of heart disease and high blood pressure. He was taken ill two days before Christmas but rallied from the first attack and then suffered a relapse.

The Late Ex-Chief C. H. Rose

The death of Ex-Chief Rose removed an exceptionally popular person. He was born in Brooklyn, N. Y., on February 19, 1857, and moved to New London when a young boy. He first became a fireman on November 3, 1872, when he joined the Relief Engine Company No. 3, now known as the William B. Thomas Hose Company, No. 3, at the age of sixteen. The apparatus of the Relief Engine Company consisted of the old style double decker hand pump and a two reel hose wagon, the latter hand drawn.

He served the Thomas Hose Company for several years and in 1894 he was made Second Assistant Engineer of the department under Chief Charles Ockford. He was promoted to First Assistant Chief in 1901 and in 1923 he advanced to Chief of the department, which rank he held until his retirement three years ago.

Chief Rose passed his love for fire fighting on to his two sons, John and Earle Rose, now members of the New London department.

Ex-Chief Rose is survived by his wife, four daughters and two sons. The funeral was held on January 11, when several hundred persons attended the services held at Fire Headquarters on Union Street. Fire officials from many cities in Connecticut were in attendance. Chief Rose was past President of the Connecticut State Firemen's Association. A delegation comprising the Executive Committee attended the funeral.

The casket was set in the middle of the rear part of Fire Headquarters, where it was borne from his home and lay in state until 2 p. m. It was the first time this honor has been paid to a citizen of New London. Interment was in Jordan Cemetery, New London. The active bearers were members of the local fire department while the honorary bearers were selected from the State Firemen's Association.

THOMAS F. MAGNER.

Drill Tower Urged for Schenectady

Chief August G. Derra, head of the Bureau of Fire in Schenectady, N. Y., has included in his 1930 annual report, the recommendation that a drill tower be erected as soon as possible in order that firemen may receive the proper instruction in the handling of equipment. He has also recommended that Station No. 7 be relocated and made large enough to house a city service truck in addition to its present apparatus.

Fire Losses Increase in Detroit

Fire losses in Detroit, Mich., for 1930 were about $200,000 more than for 1929, a current report indicates. The losses for last year amounted to $4,322,898 on risks valued at $233,761,335 which were insured for $212,083,499. These figures are estimated for December only, but reported as actual for all other months of the year. The greatest loss was $223,341 last March in an upholstery concern.

The department had a total of 13,956 alarms of which 11,342 were actual fires and 1,605 were maliciously false. Only twenty-seven fires required extra alarms of which sixteen were second alarms, seven were thirds and two eacn were fourth and fifth calls.

The customary bon fires, grass fires, sparks from chimneys, rubbish and careless smokers lead the list of causes. The greatest number of specific causes recorded was 1,713 fires in automobiles in garages. Twenty fires amounted to more than $30,000 loss each and the total of the twenty was $1,534,462.

N. Y. Radio Call Received in Boston

During the evening of January 1, 1931, a serious fire occurred on the water front in Jersey City, N. J., and a New York fire boat was sent over. While the boat was out of quarters radio messages were sent from and received at the Land Station Battery Park. The former were picked up by several members of the Box 52 Association and the President advised the Station of the fact. In reply he has received the following letter which he believes will be read with interest.

City of New York, Fire Department,
Headquarters Marine Division, January 3, 1931

Mr. P. Hildreth Parker, President, Box 52 Association,
30 Huntington Avenue, Boston, Massachusetts

Dear Sir: Thanks very much for your letter of January 1, acquainting me with the fact that my radio conversation with the fire boat John Purroy Mitchell during the progress of a fire in Jersey City recently, was picked up in Boston.

Being rather new in the radio field, I might be inclined to forget that others than those to whom I am talking sometimes hear what is being said, and, I might, inadvertently say something which might not be exactly Radioese, so to speak. Some firemen do that occasionally.

Letters like yours sort of put one on one's guard.

Rather a unique way of getting acquainted with the Box 52 Association; please extend to the members my very best wishes.

Sincerely yours,

JOHN J. MCELLIGOTT.
Deputy Chief of Department Commanding Marine Division

Bridgeport Has Low Fire Loss

According to the annual report of the Bridgeport, Conn., Fire Department, filed with the Board of Fire Commissioners by Chief Thomas F. Burns, that city boasts of one of the lowest fire losses of any city in the country of the same population. The loss, according to Chief Burns' report, was $109,471.50 and is figured on the city's population of 147,000. The per capita loss was seventy-four cents.

Chief Thomas F. Burns

During the year a total of 1,245 alarms were received, fifty-two of this number being false alarms. The value of property involved including buildings and contents was $10,321,945. Careless smokers caused the most amount of damage with a loss of $18,934.37 while fires listed as unknown did damage amounting to $16,286.13. Spontaneous combusion resulted in a loss recorded as $14,370. The department traveled a distance of 4,403.15 miles. The months of April and May saw the most number of fires: 137 runs were made in April with a loss of $13,515 and 115 runs in May with a loss of $14,607. The most number of runs for the entire year was in the month of March, but the loss was trifling, due to grass and rubbish fires.

THOMAS F. MAGNER.

Second Unit Delivered to Muncie, Ind.—The second of the two General Fire Apparatus Company units has been delivered to Muncie, Ind. Neither piece of apparatus has been placed in service as the department is waiting for the Board of Safety to secure men to man the apparatus.

Moorhead, Minn., Celebrates Anniversary—The old days of fighting fires were recalled during the fiftieth anniversary celebration of the Moorhead, Minn., Fire Department. Back in 1880 the sole equipment of the department consisted of one hand-drawn hose reel and a ladder truck. In 1915, N. B. Remley was named Chief and he has been head of the department ever since.

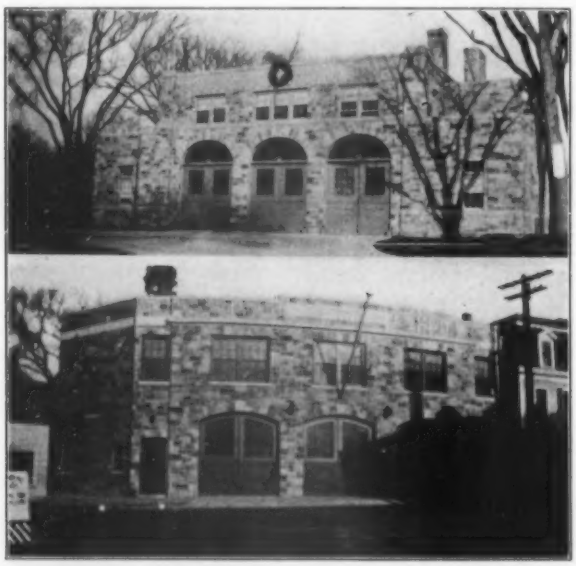
Weymouth Has Two Attractive Houses

The town of Weymouth, Mass., has two handsome new fire houses both of distinctive design and built of seam faced granite. One was completed a year ago and the other was placed in service following dedication ceremonies which took place on December 18.

The newest house is known as Station 2 and is situated in East Weymouth. The central portion of the building is two stories in height and has three double doors for the passage of apparatus. On either side are one story wings containing the chief's office and the Gamewell fire alarm equipment, the latter being in a section entirely separated from the rest of the structure although joined to it.

E. J. Wilson was the architect. The second floor contains a large living room with open fireplace and radio, a library, captain's room, lieutenant's room, two dormitories with metal lockers for clothes, kitchen with Universal electric range, large wash room with shower baths and lavatories, drying room, and cedar closet. There are five brass sliding poles. The basement contains a Wayne oil burner, Richardson boiler, hot water tank, General Electric air compressor, and two compressed air tanks which are connected with an 8-inch chime whistle.

Fire alarm equipment furnished by the Gamewell Company of Newton, Mass., consists of a 10-circuit automatic repeater with clear vision case mounted on blue Vermont marble, one art metal pedestal for same, one 10-unit repeater switching panel, one 10-circuit protector board, one



Upper—Station No. 2 Recently Opened in East Weymouth, Mass. Lower—Station No. 3 at Weymouth Landing in Service for One Year.

10-circuit C O type charging board of new style with resistance units instead of lamps and with a milliammeter for each circuit, one recording set consisting of Excelsior register and Peerless take up reel, one control panel, one flush mounted terminal cabinet for 15 circuits, one motor generator of 220 volts, one Ph. generator, two 5-shelf battery racks containing 320 cells, and one gas engine driven generator, 800 watts, 110 volts, D.C. Adjoining the instrument room is a room for the superintendent of fire alarms. In the rear is a work shop.

In the watch room on the apparatus floor are the alarm gongs, call bells, light switches, Excelsior register and take up reel, telephone, and 100-wheel alarm transmitter. The main floor is of Swan treated concrete. A Telechron electric clock and a circulating ice water system are installed. The Thermo fan heating system is used.

The building was erected at a cost of $65,000 exclusive of the fire alarm equipment which cost $12,000 additional. The fire apparatus in this house consists of Engine 2, a 750-gallon Seagrave motor pumper with booster tank, and Ladder 2, a Seagrave city service hook and ladder truck with chemical tank and hose. The car of Chief J. Ralph Bacon is also kept in this house.

The dedication ceremonies began with a turkey supper which was served on the main floor, the apparatus having been moved outside. Divine blessing was asked by the Rev. Winfield S. Randall, of the East Weymouth Congregational Church, and a silent standing tribute was paid to the memory of the late Chief John Q. Hunt who died at the post of duty. The speakers included Chief Bacon, George L. Barnes, Town Moderator; Senator Newland H. Holmes, Frederick Humphrey, Chairman of the Building Committee; Percy Harrison, of the Massachusetts Civil Service Board; Col. Frederick G. Bauer, Town Counsel; and Edward E. Williamson, Superintendent of Maintenance, Boston Fire Department, who represented Fire Commissioner Edward F. McLaughlin, of Boston.

Among the guests were Chief Henry J. Stevens, of Hull; Chief William J. Sands, of Quincy; Chief Albert Brown, of Hingham; Chief P. E. Casey, of Abington; Chief Inkley, of Rockland; Deputy Chief Cutler L. Vose, of Cambridge; Chief Fred Leonard, of Taunton; Deputy Chief John Galligan, of Taunton; Chief Fred A. Tenney, of Braintree; Deputy Chief Fred W. Webb, of Weymouth; Capt. C. A. Cann, of Lynn; Rep. Joshua B. Reed, the Weymouth Board of Selectmen, the former Board of Fire Engineers, and Chief Arthur H. Pratt and Capt. Edward Butler, of the Weymouth Police Department.

Chief Bacon, Deputy Chief Webb, Supt. of Fire Alarms C. F. Coolidge, Asst. Supt. Raymond Kennedy, Capt. Herman Pratt, and Lieut. Robert Whitmarsh acted as a Reception Committee to show visitors over the building. The house sets well back from the street and the front is illuminated by flood lights from nearby elm trees.

The other new firehouse built a year ago is known as Station 3 and is at Weymouth Landing. It was designed by McLaughlin and Burr. It contains a large smoking room, dormitory, kitchen, and lavatory with shower baths on the second floor. The apparatus floor is of concrete with glazed tile walls. Engine 3, Squad A, and a forest fire truck are kept in this house.

The Weymouth fire department has a force of 24 permanent firemen and 32 call men. The apparatus consists of one Maxim 1000-gallon motor pumping engine, three Seagrave 750-gallon pumpers, two Seagrave city service ladder trucks, squad wagon, two forest fire trucks, and chief's car.

HARRY BELKNAP.

Newly Elected Chiefs

The following have been elected to head the fire departments in their municipality:

Ralph Winters, Franklin, N. J.
Frank Terry, Stirling, N. J.
Harry Carnes, South Greensburg, Pa.
Jules Sanders, Orange, Tex.
L. J. Taylor, Springville, Utah
E. T. Clayton, Corydon, Ia.
Harry B. Tice, Hart, Mich.
Reed Keesling, Wayzata, Minn.
Harry Pietroski, New Providence, N. J.
James Barrett, South Charleston, W. Va.
Harold Hutchinson, Grass Valley, Cal.
Samuel R. Van Orden, Jr., Denville, N. J.
Walter L. Strout, Port Deposit, Md.
W. T. Fannaly, Ponchatoula, La.
F. H. Schirmer, Hartington, Neb.
Fred Eggert, West Brighton, N. Y.
J. A. Kratoska, Vining, Ia.
J. D. Sells, Pasadena, Tex.
A. J. Hasbrouck, Grundy, Ia.

Charles Whitney With Oil Association

Charles A. Whitney has joined the technical staff of the American Oil Burner Association. He will spend most of his time in the field working with fire chiefs and municipal authorities in drafting oil burner ordinances.

Mr. Whitney was field engineer for the National Board of Fire Underwriters from 1912 to 1925 and has assisted in making fire defense surveys of a large number of cities throughout the country. He is a graduate of the University of Kansas.

Firemen's Association Awards Prizes

Winners have been announced of the essay and poster contest conducted by the Bureau of Fire Prevention of the Montgomery County Firemen's Association among the schools in Montgomery County, Pa.

The essay contest groups were divided as follows: fourth, fifth and sixth grades; seventh, eighth and ninth grades; tenth, eleventh and twelfth grades. A wrist watch was awarded to a boy and girl in each section. The winner of the poster contest received a prize of ten dollars.

BLAST IN PHOTO ROOM STARTS NEWSPAPER PLANT BLAZE

Linotype Operator Killed in Fall From Upper Floor—Flames Spread Rapidly to Every Floor —Battalion Chief Injured by Explosion

FIRE department officers are seeking to learn the cause of the fire that destroyed the plant and offices of the Baltimore *Post* on January 2. This old time Baltimore, Md., newspaper is owned by the Scripps-Howard interests.

Flames were discovered on the second floor on the east side of the building by a watchman making his regular rounds. He opened a door leading to a stairway and was driven back by the smoke. Shouting a warning to people within the building, he rushed to the street and turned in an alarm from a box on the corner. Three minutes after the first alarm and while firemen were getting the ladders in position, every floor was ablaze. Flames darted across a narrow street and licked the buildings opposite.

An explosion was heard and it is believed it started in the photographic room next to the editorial offices. Several muffled explosions followed and they are attributed to a heavy backdraft as each of the floors became involved.

Battalion Chief Tauber was injured by an explosion while raising a ladder to rescue four trapped men. The force of the blast threw him down and fractured his arm. A ladder raised to the trapped men was about four feet short of the window but the men managed to get down. A linotype operator was then seen to rush to the window, become panicky, and fall to the street below. He was killed.

So thickly did the streets become coated with ice that the United Railway sent truck loads of rock salt and sand so that their street cars could maintain some kind of schedule.

The pressroom was located in the basement and the business offices were on the fifth floor. All the equipment within the building was completely destroyed by the fire that lasted one and one-half hours. Six persons were injured. According to the latest estimates the total damage is $200,000.

Salvage corps officers are mystified by the source of the explosions, and following an investigation by fire department officers, it is believed that the fire started in a dumbwaiter shaft on the first floor

Large Number of Fire Streams Focused on Post Tower

The arrow indicates the window from which the linotype operator fell to his death on the sidewalk below. Every floor in the building was involved.

Firemen Fight Fire from "L" Tracks

Four alarms were turned in for a fire that involved the fifth and sixth floors of a furniture house in Brooklyn, N. Y., occupied by John Mullins & Sons, and completely disrupted

Scene of Four-Alarm Furniture Fire in Brooklyn

traffic in the downtown section of that borough for more than one hour.

The blaze was discovered by a sixteen-year-old stock boy who went on an errand to the top floor of the building. When he detected the flames he ran through the building from floor to floor and quietly informed the 160 employees and the many customers who were in the store at that time.

Power was shut off from the elevated structures so that firemen could work from the elevated train tracks. The power interruption continued from 11:03 a.m. to 12:10 p.m.

The fire, accompanied by great clouds of black smoke, virtually ruined the two floors and so much of the stock on lower floors was damaged by water that William Dobin, manager of the store, said the loss might exceed $250,000. All persons in the building at the time left quickly and quietly.

Fire Caused by "Hero"

A fifteen-year-old boy who witnessed a motion picture show in Indianapolis and there became inspired with the idea of being a hero, set fire to a barn south of Knightstown, Ind. The barns were part of the property of a state home where the boy was located. The fire loss amounted to $40,000.

Cincinnati Fire Marshal Dead—Leonard S. Westcott, Fire Marshal of Cincinnati, Ohio, died at his home following a stroke of apoplexy in a fire station in October. He was sixty-nine years old and was regarded by Chief Berney Houston as one of the most capable men in the department. Mr. Westcott is survived by his widow, a son who is a fire alarm operator, a daughter, two sisters and a brother.

Even a City Incinerator May Forget Its Duties

A city incinerator, perhaps one of the temperamental ones, located at Church Street and Liberty Avenue, Jamaica, L. I., selected a real cold day in which to "go on the loose." The picture was taken just as the firemen arrived.

WHAT'S BURNING

THE following list includes fires of $25,000 loss and over in the United States and Canada, for the periods designated in the headings. These figures, compiled from telegraphic reports, are based on estimates made at the time, and are subject to later investigation and consequent revision. Taken as a whole, however, they give an approximately correct view of the losses incurred. The figures represent loss in thousands of dollars.

Week Ending January 9	Loss in Thousands of Dollars
BLACK RIVER FALLS, WIS.—Black River Falls Produce Co...	30
NEW ORLEANS, LA.—Barn No. 8 at Fair Grounds racetrack.....	25
GOLDSBORO, N. C.—Tobacco whse. of J. L. Borden.....	40
OPP, ALA.—Donaldson Hotel, and Himley & Co. bldg.....	65
SOPCHOPPY, FLA.—Store of J. R. Lawhon, adj. property.....	30
BAGLEY, WIS.—Business property of Harry Dolphin.....	25
PETERSBURG, VA.—Planing mill of Petersburg Woodworking Co.	25
HIGGANUM CENTER, CONN.—Plant of Unidna Beverages Co...	33
DAYTON, OHIO—Building at Wright Field, also four planes.....	65
PLATTSBURGH, N. Y.—First Baptist Church destroyed.....	25
SEATTLE, WASH.—Steamship "Maliko" of Matson Navigation Co.	80
CHICAGO, ILL.—Apt. building at 2726 Argyle St.....	25
BLOOMINGTON, ILL.—Plant of Sampson Oil Co..	40
MONESSEN, PA.—Entire business block destroyed.....	100
FOSTORIA, OHIO—Alcott block damaged.....	25
PITTSBURGH, PA.—Bldg. occupied by Pittsburgh Fruit Exchange	25
WALNUT RIDGE, ARK.—General store of N. Pitzell Co....	50
CAMBRIDGE, MINN.—Gouldberg & Anderson block destroyed....	65
WYNNEWOOD, OKLA.—Business block destroyed.....	60
STEPHENS, ARK.—Several business establishments damaged.....	35
ADAIRVILLE, KY.—High school building destroyed.....	25
NORTH BRANCH, MINN.—North Branch Auditorium, adj. property	50
CHARLEVOIX, MICH.—Plant of Charlevoix Lumber Co..	40
BALTIMORE, MD.—Building of Baltimore Post destroyed.....	200
IROQUOIS, ONT.—Bldg. of Beach Milling Co.....	50
NASHUA, N. H.—Wesson's Paint Shop, Clinton St.....	35
SANDUSKY, OHIO.—Boston Dept. store damaged.....	80
VISALIA, CAL.—Property of Union Oil Co..... ...	25
TICONDEROGA, N. Y.—Four business buildings destroyed.....	25
CALGARY, ALTA.—Eighth Avenue business property damaged....	40
EAST ORANGE, N. J.—Women's Club of Orange destroyed.....	80
BELLEFONTAINE, OHIO—High school building damaged..... ...	35
ISLETON, CAL.—Main factory building of Isleton Cannery.....	150
BALTIMORE, MD.—Baltimore Country Club destroyed.....	100
LEXINGTON, MISS.—Store of R. & B. Sontheimer, Inc.....	25
BAGLEY, WIS.—Several business establishments damaged...	25
TERRE HAUTE, IND.—Home of J. W. Thompson destroyed.....	40
WILLIAMS, CAL.—Department store of J. S. Robinson.....	160
DARDANELLE, ARK.—Gleason Bros. store, adj. property.....	80
STURGEON FALLS, ONT.—General store of Theo. Legault..... ..	50
ANN ARBOR, MICH.—Plant of Cavac Radio Corp. destroyed.....	80
SANDUSKY, OHIO—Former Matthews Engineering plant.....	80
QUEBEC, QUE.—B. E. Leclere and Lamy & Lamy stores.....	60
WILLIAMS, CAL.—Williams Hardware Store, adj. property.....	150
SAVANNAH, GA.—Plant of Pineland Products Co.....	65
JELLICO, TENN.—School building destroyed.....	35
SALT LICK, KY.—Plant of Salt Lick Lumber Co.....	35
CELESTE, TEX.—Dyer Bros. drug store, adj. property.....	65
MIDDLETOWN, W. VA.—Store and home of B. B. Mitchem.....	35

Week Ending January 16	
RED BANK, N. J.—Palace Theatre building damaged.....	40
BOUCKVILLE, N. Y.—Plant of Duffy-Mott Co.....	40
SHINGLE SPRINGS, CAL.—Store of C. L. Scheiber destroyed.....	40
BROWNWOOD, TEX.—Brownwood Hospital destroyed.	25
SUNBURY, PA.—C. M. Stutzman building damaged.....	80
JERSEY CITY, N. J.—Apartment bldg., York & Barrow Sts.....	80
WALTON, N. Y.—Munn Piano factory, adj. property.....	30
SALEM, MASS.—Drug store of E. E. Eaton, Essex St....	30
WALLAND, TENN.—Tannery of Schlosser Leather Co.....	400
MAYFAIR, SASK.—Several business establishments.....	25
RIPON, WIS.—Historic Smith Hall at Ripon College destroyed.....	45
BUTTE, N. D.—Emil Wells Hardware store & adj. property destroyed	25
TRIMBLE, TENN.—Cotton gin of A. Downing destroyed....	25
PIERSON, IOWA—Property of George Hatfield destroyed.....	30
CEDAR RAPIDS, IOWA—Packer Products Co. storage bdg. destroyed	35
BIRMINGHAM, ALA.—Property of Newell Contracting Co. destroyed	25
LA GRANGE, GA.—Several business establishments.....	180
JONESBORO, ARK.—Arkansas State College adm. bldg. destroyed..	150
POST FALLS, IDA.—Alan race pavillion destroyed.....	30
BALTIMORE, MD.—Property of Baltimore Storage Co.....	25
OAKLAND, ME.—Getchel Fdry. & Machine Works damaged.....	65
LAKE COBBOSSEECONTEE, ME.—Cottage of Mrs. C. Starrett destroyed	25
CHICAGO, ILL.—Santa Maria Addolorata Catholic Church destroyed	125
READING, PA.—Frederick Lauer mansion damaged.....	30
WEST MEMPHIS, ARK.—Z. T. Bragg Lumber Co. plant destroyed	25
BUENA VISTA, ARK.—Store of Brewies Mercantile Co. destroyed	30
JEROMESVILLE, OHIO—Ewing Hardware Co. and adj. property destroyed	65
BATTLE CREEK, MICH.—Property of Heffley Plumbing Co. destroyed	30
SPRINGFIELD, MASS.—Factory of Geo. Kimball Furniture Co.....	50
JELLICO, TENN.—School building destroyed.....	45
SEATTLE, WASH.—Steamship "Maliko" of Matson Navigation Co.	175
READING, PA.—Home of P. H. Lysczak destroyed.....	45
CONCORD, N. H.—Boston Store, S. Main St. damaged.....	35
CORSICANA, TEX.—Grocery plant of Fortson Bros. destroyed.....	100
GULL LAKE, ALTA.—Entire business block destroyed.....	25
MINNEAPOLIS, MINN.—Property of La Pompadour, Inc.....	70
READING, PA.—Bridgam's electrical store, adj. property.....	50
DANSVILLE, N. Y.—Dansville Recreation Center damaged.....	25
WALNUT RIDGE, ARK.—Swan Theatre destroyed.....	40
GOLDSBORO, N. C.—Bldg. occupied by Ford agency.....	60
JACKSONVILLE, FLA.—Bldg. of Cunningham Furniture Co.....	100
TALMO, GA.—Bank of T. W. Murphy & Sons, adj. property.....	40
NEW YORK, N. Y.—Property occupied by Bernard-Greenwood Co...	200
BRUNSWICK, GA.—Fire in Business Block (Previously reported as $300,000 loss) according to Chief Harrison, loss is.....	92

N. Y. Lists Causes of Garage Fires

During 1929 there were 885 garage fires in New York City. The New York Fire Department has drawn up the following as the principal causes for fires in garages:

1. Washing down motor with gasoline and using a metal bound brush.
2. Failure to wipe up gasoline flowing from leaky carburetors and subsequent ignition by back fire of motor.
3. Smoking by mechanics making repairs.
4. Burning out carbon with oxygen cylinder.
5. Using welding torch around oily motor or near automobile which still has gasoline in its tank.
6. Use of home-made battery charging devices.
7. Use of unsafe light extension cords.
8. Soldering gasoline tanks or vacuum tanks containing gasoline with a blow torch.
9. Use of stoves and home made heaters in garages.
10. Improper storage of gasoline in open pails and cans.
11. Leaky gasoline pumps, tanks and pipings.
12. Spraying automobiles by persons who are smoking or near open flames.
13. Failure to clean separators which should prevent discharge of gasoline into sewers.

Other things that are listed by the Fire Department as contributing to the spread of fires in garages are failure to provide fire extinguishers and pails of sand for use when a fire occurs, lack of self-closing cans for the storage of oily waste, construction of garages adjacent to boiler rooms with open doors between, overloading of floors by bringing in loaded trucks and various violations of the Zoning Act, Code of Ordinances and the Building Code.

The Fire Department has issued the following suggestions for the protection of motor repair shops:

1. See that building conforms to the Zoning Law and the Building Code.
2. Make sure that it is properly fire retarded.
3. Use forgers and welding torches only in fireproof enclosures.
4. Examine electrical equipment to make sure that it is free from defects.
5. Don't solder gasoline tanks until they have been properly cleaned and aired.
6. Don't spray in the presence of open flames, torches or operating motors.
7. If gasoline is spilled in the garage, clean it up immediately.
8. Enforce "no smoking" rules.
9. Don't permit the storage of motorcycles in the basement.
10. See that no gasoline is kept on premises except in proper tanks or containers.

E. Hartford, Conn., Accepts New Pumper—A 1,000-gallon Mack pumper delivered to Hartford, Conn., has successfully passed the Underwriters' test.

William Mow Chief of Sharon, Conn.—William Mow has been elected Chief of Sharon Fire Department No. 1, Sharon, Conn., for a two-year term. The company consists of thirty active volunteers.

Augusta Councilman Made Honorary Chief—The Civil Service Commission of Augusta, Ga., appointed Councilman L. J. Schaul Honorary Deputy Chief for life in recognition of his services as Chairman of the Fire Committee of the Council. Mr. Schaul praised the good work of Chief John B. Kennedy.

FIRE PREVENTION ORDINANCE FOR CITIES AND TOWNS

It Establishes Bureau of Fire Prevention—Prescribes Regulations for Hazardous Materials and Processes

(*Continued from last issue*)

THE following Fire Prevention Ordinance has been prepared by Engineers of the National Board of Fire Underwriters and is recommended by that organization for adoption by cities and towns. While it is not expected that in all cases smaller cities will find need for an ordinance of such length, it is recommended by the Board that a complete set of regulations be adopted in all cases, for even though there may be no immediate need of regulation of a particular hazard, every growing community is sure to have these hazards introduced sooner or later, and it is better to be prepared for them than to develop unrestricted and then try to regulate them. The ordinance is being published in its entirety serially in FIRE ENGINEERING. *Continuation of Part* 10. *The Application of Flammable Finishes—Spraying*—1014:

(f) Pails or receptacles shall not exceed 10 gallons capacity for gravity feed to spray guns and shall be kept covered with tight fitting non-combustible covers. Only wire cables or those containing stranded wire cores shall be used to suspend gravity-feed pails.

Pails or receptacles containing flammable finishes shall be returned to the storage cabinet or storage room at the close of each day.

(g) No portable lamps shall be used inside spray rooms or booths. Lamps shall be prohibited inside spray booths and ducts and in any location where there is a possibility of the spray coming into direct contact with the lamp or fixture.

Auxiliaries of mercury vapor lamps shall be offset at least ten feet from the face of the booth, and located outside of spray rooms used for open spraying.

Electric motors shall not be placed inside booths or ducts.

(h) Motor vehicles shall not be moved by their own power while in the finishing room. Electric storage batteries shall be removed.

Dip Tanks

1015. Dip tanks having an area in excess of 10 square feet shall be provided with approved covers arranged to close automatically in case of fire and also arranged so that they can be closed manually. Smaller dip tanks shall be provided with suitable covers or with asbestos blankets which can be placed over the tanks. If dip tanks are protected by an approved automatic fire extinguishing system employing a fire retardant chemical or gas the covers specified above may be omitted.

Japanning and Enameling

1016. Japanning and enameling drying ovens shall not be placed in contact with wood floors or other combustible material. Heating of ovens shall be done by steam coils, indirect hot air circulation through oven to outside, indirect hot oil circulating pipes, indirect gas burners or electricity. Open flames or fires shall not be in communication with the compartments where goods are being treated.

Part 11. Dry Cleaning and Dry Dyeing

1101. Dry cleaning shall include the removal of dirt, grease, paints and other stains from wearing apparel, textiles, fabrics, furs, rugs and similar articles by immersion or agitation in flammable liquids or by brushing or scouring with such liquids.

1102. Spotting is the local application of flammable liquids, to spots of dirt, grease, paints or stains, and shall be limited to the use of one quart of such liquid, stored and applied from an approved safety can.

1103. Dry dyeing is the process of dyeing in a solution of dye colors and flammable liquids.

1104. No dry cleaning or dry dyeing shall be permitted without a permit from the Chief of the Bureau of Fire Prevention.

1105. No permit shall be given for any dry cleaning or dry dyeing operation except in a plant conforming to the requirements of Part II of this ordinance.

1106. Spotting is prohibited in any room not provided with a safe means of exit direct to the outside air.

1107. Dry cleaning and dry dyeing buildings shall be not closer than ten feet to the line of adjoining property, except when the exposing wall of the dry cleaning building is of standard brick or equivalent construction and without openings it may be located on the property line but in no case shall more than two sides have blank walls.

Height shall be not over one-story, without attic, concealed roof space, basement or pits.

Walls shall be brick, not less than 12 inches thick, or equivalent construction. Wall finish shall be either plain or plastered without furring. Division walls between this and other buildings shall be blank. Two exits shall be provided remote from each other and leading directly to the outside of the building. Wired glass for windows shall be in sash so hung that they will readily swing out in case of an explosion. Such sash shall not be secured. Glass area in walls shall be so located as to vent the force of any explosion in the direction or directions of least exposure.

Doors shall be approved fire doors.

Floor shall not be below grade and must be free from pits, wells and pockets. The wearing surface shall be of an incombustible material.

Roof shall be flat, of fireproof construction. If, due to local conditions, it is desirable to vent possible explosions upward the roof shall be of light construction and of incombustible material.

Skylights shall be provided. They shall be constructed of metal frame and sash and be provided with wired glass. The sash shall be of the pivot type, and so hung as to readily swing out in case of an explosion.

1108. Drying rooms if under the same roof as the dry cleaning and dry dyeing rooms shall be separated from such rooms by a fire-resistive wall. The entrance to such drying room or rooms shall be provided with standard, self-closing fire doors. Ventilation of such drying rooms shall conform to the requirements for ventilation of dry cleaning and dry dyeing buildings, and the provisions for fire extinguishment shall be complied with. If the drying room is in a separate building, it shall conform in construction and equipment to all requirements for dry cleaning and dry dyeing buildings.

1109. A mechanical system of ventilation of sufficient capacity to insure complete and continuous change of air in dry cleaning and dry dyeing rooms once every three minutes shall be installed and shall be provided with means of remote control.

1110. All electrical equipment shall be installed in accordance with the National Electrical Code for hazardous locations.

(*To be continued*)

Brooklyn Fire Chaplain Dead

A service of twenty-eight years as Chaplain in the New York Fire Department was brought to a close with the death of the Rev. Harry A. Handel, minister of the Protestant Episcopal Church. Three years ago he underwent several operations from which he never recovered sufficiently to resume active duty. He will be accorded the funeral honors of a Chief of Battalion. The body will be cremated and the ashes taken to Taunton, England, where he ws born.

Mr. Handel came to this country as a young man and received his schooling for the Church at St. Stephen's College, Anandale, N. Y., and at the General Theological Seminary, where he was ordained in 1896.

After his ordination he served for several years as a missionary in the mining and ranching districts of Colorado, and while there he became a warm friend of the late President Roosevelt when the latter was a rancher. He had frequently hunted with him and entertained him at his rectory in Meeker, Col. It was Colonel Roosevelt who subsequently brought about his appointment as a fire chaplain in 1902. Mr. Handel was noted for his humanitarian interest in firemen, especially the war veterans, and for years had been popular with the fire-fighters.

During the World War Mr. Handel served in France as chaplain of the 106th Infantry. In 1923 he visited the battlefields of France and Belgium and brought back photographs of the graves of the members of the regiment, which he presented to the Gold Star mothers.

On his twentieth anniversary as a chaplain a gold watch was presented to him by the firemen. In addition to his post as fire chaplain he was an assistant in the parish of St. James Hospital Church in Brooklyn and chaplain of Firemen's Post, Veterans of Foreign Wars.

FIRE DEPARTMENT ACTIVITIES

Apparatus Delivered to Monona, Ia.—Reo fire apparatus has been delivered to Monona, Ia.

Barrington, R. I., Has New Fire Alarm—A new fire alarm system has been installed in Barrington, R. I.

New Albany, Ind., to Have Ladder Truck—New Albany, Ind., has placed an order for a Mack ladder truck.

Milwaukee to Erect Fire Station—Milwaukee, Wis., has opened bids for the construction of a fire station.

E. Lansdowne Has New Station—A combined fire station and town hall has been opened in East Lansdowne, Pa.

Six Firemen Added in Indianapolis—Six firemen have been appointed to the Fire Department of Indianapolis, Ind.

Company Formed in New Freeport, Pa.—A new volunteer fire rompany has been formed in New Freeport Borough, Pa.

Kittanning Pt., Pa., Plans Department—Plans are being made for the organization of a Fire Department in Kittanning Point, Pa.

More Apparatus Needed in Santa Paula, Cal.—According to Chief Warren King, Santa Paula, Cal., is in need of additional fire apparatus.

Waverly, N. Y., Wants Ladder Truck—Chief Lee Starr, of Waverly, N. Y., in his annual report recommended the purchase of a ladder truck.

River Forest, Ill., Has New Pumper—The new Ahrens-Fox pumper delivered to River Forest, Ill., successfully passed the Underwriters' test.

Millburn May Have New Fire Post—The position of paid deputy fire chief may be created in Millburn Township, N. J., at a salary of $3,000 a year.

Bridgeport, Pa., May Limit Fire Runs—Officials of Bridgeport, Pa., are considerably provoked because of out-of-borough runs made by a fire company.

More Fire Alarm Boxes for Dunton, N. Y.—Ninety boxes are to be added to the fire alarm system in the Dunton section of New York City, Borough of Queens.

Fredericksburg, Va., to Buy Pumper—Provision has been made in the Fire Department budget of Fredericksburg, Va., for the purchase of a 500-gallon pumper.

Emmett, Ida., Standardizes Threads—All the fire hose threads in Emmett, Ida., have been rechased to conform to the National standard thread specifications.

Portland Wants Basement Sprinklers—Fire Marshal Roberts of Portland, Ore., is trying to compel the installation of automatic sprinklers in the basement of buildings.

Ladder Truck Urged for Iowa City—Chief Herman Amish in his annual report recommended the purchase of a new city service ladder truck and a new 750-gallon pumper.

Valhalla, N. Y., to Have Paid Drivers—Officials of Valhalla, N. Y., voted to employ two paid drivers for the Fire Department. The men will be on twelve-hour duty.

Fire Apparatus Skids Into Tree—The new fire apparatus of Middletown, Conn., skidded into a tree while the company was on its way to extinguish a chimney fire. No one was hurt.

Van Nuys, Cal., Gets Brush Fire Truck—Fire apparatus consisting of a 600-gallon water tank and a high pressure pump for fighting brush fires has been delivered to Van Nuys, Cal.

Miami, O., to Have Fire Apparatus—The township of Miami, Ohio, has received bids for a new pumper for which $15,000 bonds were approved at the last election. A fire station will also be erected.

N. Y. Deputy Chiefs Carry Medical Bags—Deputy Chiefs of the New York Fire Department are ordered to carry medical bags in the automobile assigned to the division to all fires to which they respond.

Hudson, N. Y., May Buy Pumper—Hudson, N. Y., is considering the purchase of a 750-gallon pumper to cost about $12,000. The proposed pumper will replace one that was wrecked while answering a fire call.

New Fire House for Columbus, O.—Bids have been received for the construction of a new fire station in Columbus, Ohio, estimated to cost $30,000. The station will be of brick construction, two stories high.

Bungalow Stations for Pittsfield, Mass.—The erection of two bungalow fire stations is being planned by Pittsfield, Mass. When these houses are completed it will be necessary to add twelve firemen to the department.

Fall River Holds Up House Contract—Because of lack of funds, Fall River, Mass., is to delay the construction of its contemplated fire station on Bedford Street. Bids have already been received, the lowest being $128,450.

Fire Apparatus Purchased by Los Altos, Cal.—Fire apparatus has been purchased for the newly organized fire department in Los Altos, Cal. The department consists of Chief T. J. Woodworth and twenty-five men.

Pension Board Organized in Ashland, O.—A pension board consisting of six trustees has been organized in Ashland, Ohio, under state laws. Henry J. Schulz is Chief of department.

Youngstown, O., Closes Six Stations—The Mayor of Youngstown, Ohio, has issued an order to close six of the eleven fire stations as a move for city economy. Members of the City Council are bitterly against this order and plan steps to block its enforcement.

Extra Days for Bridgeport Firemen—The Board of Fire Commissioners of Bridgeport, Conn., is arranging a plan whereby the Fire Department members will be granted two days off a month for nine months in each year. The plan does not include time off during the annual summer vacation period.

New Britain Requests Additional Men—In his new department budget, Chief William J. Noble of New Britain, Conn., has requested that a new company be provided for the western section of the city, purchase of a 55-foot ladder truck, a new 1,000-gallon pumper and greater personnel for some of the fire companies.

Improvements Recommended for Cheyenne—A number of improvements have been recommended in the report on the Fire Department of Cheyenne, Wyo., completed by the Chamber of Commerce. They include the construction of a station in the northern part of the city and the installation of an entirely new fire alarm system.

Little Falls, N. J., Well Equipped—The Fire Department of Little Falls, N. J., of which Wilber S. Crane is Chief has four engine companies. The fire house for Engine No. 4 will be opened this month. The fire alarm headquarters is located in the house of Engine No. 2 and there is a full time paid operator on duty twelve hours during the daytime. Four part paid men are on duty at night.

Many Improvements Planned in E. Chicago—Extensive improvements in the Fire Department are being advocated by the Chamber of Commerce of East Chicago, Ind. The recommendations include five new fire stations, two additional engine companies, a new fire alarm system and a drill tower. The necessity for a mutual aid system among the fire departments in the Calumet area is being emphasized.

Prescott, Ariz., Plans Many Improvements—In his annual report to the city officials, Chief A. E. Henry of Prescott, Ariz., asks for $8,000 for the general overhauling of the fire alarm system and for the purchase of new fire alarm boxes, $18,000 for a 1,000-gallon "quad" pumper equipped with an 80-gallon booster tank, and a 60-foot aerial ladder. The department is partly paid. It won first prize in Arizona in a fire prevention contest and during 1929 and 1930 was one of the nine outstanding cities in the United States in fire prevention work.

Fire Inspections Lower Fire Loss—Frequent inspections are credited with the low fire loss in East Orange, N. J. When fire inspections were started in 1927 the annual loss was about $125,000. In 1928 it was reduced to $26,000 and in 1929 the loss was $38,000. Last year, the department made 20,000 building inspections. It resulted in the razing of some frame buildings, remedying faulty electrical work and the correction of other hazards. The department burns off vacant lots, collects dead leaves and carefully inspects churches, schools and public institutions.

PROPOSED IMPROVEMENTS

Buffalo, N. Y.—Plans for new headquarters building are to be submitted to Public Works Commr. Geo F. Fisk.

Urbana, Ohio—Village to purchase new fire equipment, according to reports.

Anita, Iowa—Volunteer fire department met recently to consider purchase of new piece of apparatus, according to reports.

Paterson, N. J.—Board of Fire & Police Commrs. recommended purchase of 2½ ton chassis for turret pipes, new steel tower drill school, two new pumpers to replace old Engines Nos. 10 and 11, new fire station in East-side and Riverside sections and new and improved fire alarm system, according to reports.

Newport City, Ohio—Fire Chief Edward Miles requested establishment of another fire station, purchase of additional fire apparatus and appointment of six new firemen, according to reports.

New Castle, Del.—Movement is under way to organize another volunteer fire company in western section of city to be known as Independent Fire Co. No. 1.

Los Altos, Calif.—A fire department has been formed here with T. J. Woodworth as chief, and funds are being raised for purchase of equipment.

Benton Harbor, Mich.—District considering purchase of fire apparatus and requesting city of Benton Harbor to build fire station to house it, for better fire protection.

San Mateo, Calif.—City to vote in April on $30,000 bond issue for new fire station on southern section of city. E. P. Wilsey, City Mgr.

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Experienced Fire Apparatus Salesman who can furnish reference, by a reliable and well established factory, building a complete line of fire apparatus. Address: Box 355 care FIRE ENGINEERING, 24 West 40th St., New York City.

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Ponca City Has Low Fire Loss

Chief George K. Brown of Ponca City, Okla., in his annual report, reveals an unusually remarkable fire loss record.

During the year the department answered 194 fire alarms of which 87 were grass fires and twenty-four were caused by automobiles. Eight fires are classed as miscellaneous and ten as unknown. The total on buildings was $3,035 and on contents $1,575 or a total of $4,610. Based upon the 1930 census figures, the per capita loss is twenty-nine cents. The low fire loss is attributed, in a large measure, to the fact that ninety-one per cent of the fires were extinguished with chemicals and booster lines. The report also shows that the department reached the fires without any waste of time.

Nyack Patrol to Start Rescue Work

The Nyack Fire Patrol of Nyack, N. Y., plans to combine rescue work with salvage operations in accordance with a suggestion by Captain Wm. Paul Babcock, president of the organization.

Dr. Harry M. Archer, Honorary Deputy Chief, and Surgeon of the New York Fire Department accepted an invitation to help the patrol get started in this work. He gave an interesting talk on the evening of January 7 to a large number of firemen and first aid men from local power and telephone offices. A number of local physicians and prominent persons attended.

Dr. Archer had in his party Chief John A. Kennelly of the Ridgewood, N. J., Fire Department, "Jerry" Daly outstanding buff of the New York Fire Department who served as "movie" operator during the lecture, and James C. Seymour, Chief Telegraph Dispatcher of the Fire Alarm Telegraph Bureau, New Fire Department.

Harbor City, Cal., Wants Fire Department—Efforts are being made to establish a paid fire department in Harbor City, Cal.

Hollywood, Cal., to Erect Fire House—Hollywood, Cal., is considering the erection of two fire stations in the San Fernando Valley. The houses are estimated to cost over $21,000 each.

Farmingdale, N. Y., to Vote on Fire House—Some time in March, Farmingdale, N. Y., will vote on the question of erecting a combined village and fire department building at a cost of $100,000.

Chief Canfield of Beverly Hills Has New Car—Chief Lloyd B. Canfield of Beverly Hills, Cal., has been provided with an eight-cylinder coupe to respond to fire alarms. Formerly the chief rode in a chemical car.

Jersey City Fights 3-Alarm Fire

Three alarms were turned in for a fire that swept through a twenty-five-year old apartment house in Jersey City, N. J., on the morning of January 9, driving forty families out into extreme cold.

Deputy Chief John Sweeney responded to the first alarm at 5:45 a.m. with three engine and two truck companies. When he arrived the building was heavily charged with smoke and occupants were shouting for help from many windows. A second and third alarm were ordered in quick succession. Chief Roger Boyle responded with two deputy chiefs, six engine companies, two truck companies, a water tower and a rescue squad. The first truck companies raised ladders and succeeded in taking every one to the street.

The blaze is reported to have started from a defective heating plant in the cellar. Flames shot up the various dumbwaiter shafts and rapidly mushroomed through the upper floors. Firemen were hampered by intensely cold weather. Property damage was $75,000.

FRED J. ARMBRUSTER.

New Trade Literature Received

The following literature descriptive of up-to-date methods and equipment for fire departments, has just been issued for general distribution, and can be procured by writing to the concerns mentioned. Those desiring additional trade literature in which they are interested can use our regular "Information for Buyers" pages, listed in the Advertising Index.

Lovell-Dressel Co., Inc., Arlington, N. J.—Catalogue describing the Gilson All-Angle Ferret Fire Fighting Tools; twenty-four illustrated pages and cover.

Mine Safety Appliance Co., Pittsburgh, Pa.—Illustrated folder describing safety appliances for use in fire fighting and rescue work.

Globe Manufacturing Co., Pittsfield, N. H.—Globe Suits, a pocket-size catalogue illustrated in color; eight pages and cover. Describes line of firemen's coats, pants and boots.

CONVENTION DATES

Jan. 21—FIRE CHIEFS' EMERGENCY PLAN OF WESTCHESTER COUNTY. Regular Monthly Meeting, Fire Headquarters, Harrison, N. Y., 8 p. m. Secretary-Treasurer, E. Riviere, Fire Headquarters, Larchmont, N. Y.

Jan. 29—NEW JERSEY STATE FIRE CHIEFS' ASSOCIATION. Quarterly Meeting, Newark, N. J. Secretary, Fred. A. Trowbridge, 17 South Street, Morristown, N. J.

March 9-11—SOUTHWESTERN ASSOCIATION OF FIRE CHIEFS. 4th Annual Convention, Dallas, Tex. Secretary, Chief J. E. Taplin, Fire Department, Blackwell, Okla.

May 11-16—NATIONAL FIRE PROTECTION ASSOCIATION. 35th Annual Meeting, Toronto, Ont., Can. Managing Director, Franklin H. Wentworth, 60 Batterymarch St., Boston, Mass.

May 21—IOWA STATE FIRE CHIEFS' ASSOCIATION. Annual Convention, Ames, Iowa. Secretary-Treasurer, Chief L. R. Morris, Ames, Ia.

June 10-12—FLORIDA FIRE COLLEGE. 2nd Florida Fire College, Sebring, Fla. Address, Florida State Firemen's Association Fire College Committee, Chief Anderson, Ft. Myers, Fla., Chairman.

June 17-20—WASHINGTON STATE FIREMEN'S ASSOCIATION. 9th Annual Convention, Port Angeles, Wash. Secretary, S. H. Jenkins, Bellingham, Wash.

June 23-26—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS. 9th Annual Convention, Boston, Mass. Secretary, Chief John W. O'Hearn, 99 Main Street, Watertown, Mass.

July 13-16—MONTANA STATE FIREMEN'S ASSOCIATION. 40th Annual Convention, and Firemen's Short Course, Bozeman, Mont. Secretary-Treasurer, D. E. Moser, Bozeman.

Sept. 8-10—ILLINOIS FIREMEN'S ASSOCIATION. 44th Annual Convention, Murphysboro, Ill. Secretary, Assistant Chief Roy W. Alsip, Champaign, Ill. Exhibit information, Chief Albert Herring, Murphysboro. Also, 1st Annual Convention, Ladies' Auxiliary, of Illinois Firemen's Association. Secretary, Mrs. R. W. Alsip, Champaign.

Sept. 19-22—PACIFIC COAST ASSOCIATION OF FIRE CHIEFS. 38th Annual Convention, Royal Hawaiian Hotel, Honolulu, T. H. Secretary, Jay W. Stevens, 1014 Merchants' Exchange Bldg., San Francisco, Cal.

Oct. 5-8—FIREMEN ASSOCIATION OF THE STATE OF PENNSYLVANIA. 52nd Annual Convention, Wilkes-Barre, Pa. Secretary, Charles E. Clark, 411 Bellevue Ave., Wayne, Pa.

Oct. 14-17—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. 59th Annual Convention, Plaza Hotel, Havana, Cuba. Meeting Hall, Asturiano Club. Recording Secretary, Chief James J. Mulcahey, Yonkers, N. Y.; Executive Secretary, Jay W. Stevens, 1016 Merchants' Exchange Bldg., San Francisco, Cal.; Chairman, Exhibit Committee, Chief Charles A. McGinley, East Orange, N. J.

The Round Table

(*Continued from page 52*)

supply wagon that goes to all first alarm fires, and the men who we pick to make drivers are put on this wagon for six months and sometimes a year with straight fireman's pay. If he makes good on this truck, he is promoted to Round-driver whenever a vacancy occurs, at an increase of $5.00 per month and taught to drive all trucks in the department. Whenever we have a vacancy for an engineer, which is a driver on a pumping engine, the Round-driver is promoted to engineer, with an increase in salary of $17.50. We find this to be the best system in handling the drivers in our department. Our drivers thoroughly understand that if they become reckless or if a whiskey odor is detected on their breadth, they are demoted and never allowed to advance again as a driver. Since we have had this rule in our department, which has been for the last five years, we have not had a wreck of any kind.

Drivers on our ladder truck and chief's car are promoted in the same manner. Ladder truck drivers and chief's car drivers draw the same pay as the engineers.

Whenever mechanical trouble develops, it must be reported to the captain who reports to a chief officer and he in turn notifies the mechanic. When the apparatus is again ready for service the mechanic reports to the chief officer.

All drivers in the fire department are appointed by the chief officer who has full responsibility of the department in his hands.

Geo. W. Thomas, Chief, Middletown, Pa.: Our department is all volunteer, and drivers are chosen in the following manner: The company elects a competent man as head driver, and another as assistant driver. In all there are six men elected to this position, as our department consists of three companies.

The head driver makes all adjustments to apparatus in case of mechanical trouble, and if he is unable to remedy this, he reports same to the chief. The head driver must report the condition of the truck once each month to his company. He must also keep the apparatus greased and oiled and see that it is ready for immediate service after each fire.

Drivers are changed only when a vacancy occurs, and then they are chosen by election for advancement from among the other drivers.

H. A. Whitney, Chief, Adrian, Mich.: In a city the size of Adrian, or larger, I feel every fireman should be a driver, or know how to handle the apparatus. Also apparatus in smaller places is apt to be undermanned and in such cases handicap the department.

A master mechanic, if you have one, should be held responsible for apparatus when mechanical trouble develops, or the captain or other responsible person should be held accountable.

In my department the captains have charge of the drivers and change them according to their judgment.

Robert Stinson, Chief, Beadstown, Ill.: I think only two or three men should be trained for drivers, for when all members are drivers no one can be held responsible for the apparatus.

The driver should be a first class mechanic, and should be held responsible for the care of his apparatus.

A driver should be elected by the vote of the members of the fire department, for their lives are in his hands when they answer a call, and they know best who they can depend upon.

H. O. Parker, Chief, Duquoin, Ill.: I consider myself very fortunate in having a company of ten volunteers, nine of whom are real drivers. Upon arrival at a fire, one man stays with the apparatus while the others do the actual work.

Six of my men are auto mechanics and keep the apparatus in good condition. The city buys replacement parts whenever required.

One man is appointed by the city as engineer whose duty it is to keep equipment in running order. Our present plan is quite satisfactory, and we would not care to make a change.

Joseph T. McKeon, Chief, Seneca Falls, N. Y.: I believe that all members of the company should be able to drive fire apparatus, but that there should not be more than two regular drivers.

The regular drivers are held responsible when mechanical trouble develops in their trucks.

Our drivers are appointed because of their ability.

F. A. Schmidt, Chief, De Soto, Mo.: In a volunteer department, I think every member should be trained to run the truck and handle all apparatus. If only two or three men are trained there is a possibility of them being out of town at the same time. In a regular department two or three men are sufficient, I believe, as each man has his regular duty.

In a volunteer department the chief should be held responsible, unless he has one man appointed to take care of the apparatus. If this plan is followed then the chief should check what is done.

Drivers are appointed. In appointing drivers, the chief should pick men who are capable and no partiality should be shown.

F. J. Myers, Chief, Toledo, Ohio: Every member of the department should be able to drive the fire apparatus.

The driver reports to his superior officer anything that comes to his notice in regard to the apparatus not functioning properly. The officer then reports this to the master mechanic.

Drivers are detailed to their position, the most proficient ones getting the assignment. I believe drivers should receive more pay than privates.

Frank Jennings, Chief, Ardmore, Okla.: Every member of the fire department should know how to drive a fire truck. That is part of the training in our department.

In our department the captain or driver is held responsible.

Drivers are appointed and I believe it is a better plan. There is a possibility that at an election the best man for the position will not be chosen.

G. O. Evans, Chief, Vincennes, Ind.: Every man on the truck should be a driver and in case of a pumping engine, should be able to operate the pump.

The driver should be held responsible for mechanical trouble. It should be his duty to check-up on the mechanical condition of his truck and he should be able to adjust minor trouble if any should occur on his way to a fire.

Drivers should be appointed, never elected. Appointment results in the selection of the ablest man and of one willing to perform efficiently the duties required of him.

R. Timmins, Chief, Beaver Falls, Pa.: In my experience I deem it best to have every man in the Fire Department so trained that he can replace any other man in the service whether he is driver or holding any other position.

I expect our mechanic to keep the apparatus in running order. We don't hold anyone responsible when mechanical trouble develops unless it follows an act of carelessness.

Drivers are appointed by the chief and I consider it the best plan because they can be replaced if not satisfactory or if they disobey orders. If elected they are very likely to feel that they are secure and I therefore think it best to appoint them.

Charles O. Spear, Chief, South Portland, Me.: In order to satisfactorily meet all emergencies it is essential that all firemen know how to operate fire apparatus.

This department has the captain and master mechanic responsible for repairs. Captains of various companies are responsible for the maintenance of pieces under their care.

Drivers are appointed, mainly for their experience and ability.

H. J. Quane, Chief, Anaconda, Mont.: Every officer and member of a company should be trained to drive fire apparatus, of course all men will not make good drivers, but they should know how to drive in case of an emergency.

The drivers are held responsible and must report all mechanical troubles to their officer.

The drivers are appointed in accordance with their ability. I believe my plan to be a good one.

A. D. Ford, Chief, Princeton, Ind.: I make it a point to have all members instructed in driving, by teaching them on the return trips. This develops emergency drivers.

The regular driver is held responsible for mechanical trouble, if it is in his power to have prevented it.

Our drivers are appointed, by proving their ability to drive and acting quickly in an emergency. This prevents the election of a man for his popularity.

John Gibson, Chief, Mount Vernon, N. Y.: I believe that every man should be trained to drive fire apparatus and also instructed in its care, so that the best possible results may be obtained.

The man in charge of the apparatus should be held responsible when mechanical trouble develops.

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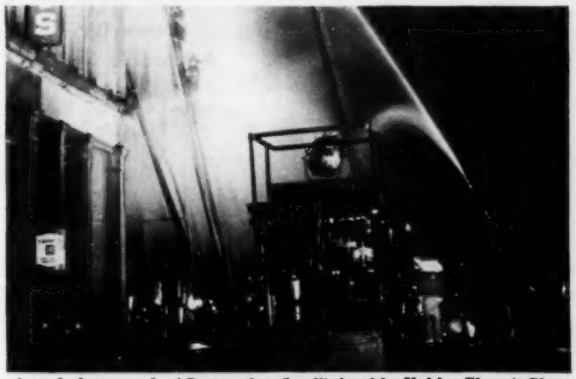

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Fire or police apparatus speeding along slippery streets must give traffic ample time to turn out to safety. A powerful warning blast from the Federal Coaster Siren is heard for blocks ahead, even by drivers of closed cars. There is sufficient time for traffic to clear, even on slippery streets.

Just two seconds contact a block on the push button switch causes the Federal Coaster Siren to sound a continuous roar. Let us send you further details.

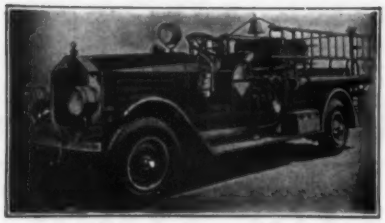
The Most Powerful Apparatus Siren Built

FEDERAL COASTER SIREN

Federal Electric Company
Signal Division
8702 South State Street Chicago, Ill.

MAXIM FIRE APPARATUS

All Types



All Sizes

If you are thinking of buying new apparatus shortly, be sure to get all the facts about MAXIM before you decide.
Send for complete information

MAXIM MOTOR COMPANY, Middleboro, Mass.
Metropolitan Sales Agents:
The Woodhouse Manufacturing Co., 156 Chambers St., N. Y.

Do Not Use Your Pumpers

TO DRAUGHT DIRTY WATER FROM BASEMENTS, ETC.

LET US SEND YOU ONE OF THESE SIPHONS

30 Day Free Trial
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Over 450 in Service

P-B PRODUCTS CO., Inc.
2155 Blendon Pl., St. Louis, Mo.
D. E. PARKS, Pres.

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If you want something better . . . buy

BUFFALO FIRE APPLIANCE CORP. BUFFALO, N.Y.

BUFFALO

Write for Complete Information

BUFFALO FIRE APPLIANCE CORP.
BUFFALO NEW YORK

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when!

You are interested in Fire Fighting Equipment consult:

BOYER

Builders of equipment to meet your requirements.
Specializing in Apparatus for Rural Fire Fighting.

BOYER FIRE APPARATUS COMPANY
Logansport, Indiana

EDDY
Fire Hydrants

Are given preference by so many fire protection and water works men because they know that more than half a century of experience go into their manufacture and they embody valuable and exclusive features.

Write for the Facts

EDDY VALVE CO.
Waterford, N. Y.
James B. Clow & Sons, Chicago Agents

The new Rensselaer Catalog "G" is now ready for distribution. Officials desiring the latest information on RENSSELAER VALVES and COREY HYDRANTS are invited to fill in and mail the coupon below.

RENSSELAER VALVE CO.,
TROY, NEW YORK.

Send Catalog "G" to

Name .....
Title .....
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New Victor Gas and Fume Mask

Better Rubber. Longer Life Better Fitted. Moulded to Fit the Face. Better Vision. Renewable Lenses. Better Air. Better Work. Low Prices. High Quality.

Over 5,000 Victor Gas Masks in Service

Full Line Fire Dept. Supplies and Equipment

New 43 Edition Catalog on Request

The Woodhouse Mfg. Co., Inc.
156 Chambers St., New York
D. A. Woodhouse, Pres. and Gen. Mgr. George J. Kuss, Vice-Pres. and Treas.

Drivers of fire apparatus are assigned by the chief. A man is appointed who has proven very satisfactory to his department.

L. Trainor, Chief, Duquesne, Pa.: I find it practical to have every man trained to drive the apparatus. I don't know if this method would apply to larger departments or not. I have twenty men and three pieces of apparatus. Six of the twenty men are regular drivers and are paid for driving.

Drivers are held responsible when mechanical trouble develops. They are appointed by the chief. The oldest man in line of service is given first preference and that is the reason for having all men taught to drive.

A. Krenz, Chief, Clinton, Ia.: We believe every man should be able to drive any motor apparatus. We do not hold any one responsible for mechanical trouble. The drivers in our department are appointed.

H. Harrigan, Chief, Dedham, Mass.: I believe that the number of men instructed in driving apparatus would depend upon the number of men in the department. In a department say of fourteen permanent men working on the two platoon system, every man should be taught to drive. In a larger department I think it would be better to have just enough men to cover any emergency that might occur.

I believe that the ranking officer in the district should be held responsible when mechanical trouble develops.

The drivers, I believe, should be appointed.

Talmar Wise, Chief, Circleville, Ohio: All men are trained to handle fire apparatus but we have our regular drivers.

The driver is responsible for the truck he drives when mechanical trouble develops.

The drivers are appointed according to their ability and we believe it to be a very good plan to follow.

James Garwood, Chief, Michigan City, Ind.: I believe that there should never be less than two men on a truck who can drive.

If the man in charge has reported existing trouble to the mechanic and nothing is done about it, the mechanic is responsible. If the driver knows of mechanical trouble and does not report it to the proper authority, the driver, of course, is held responsible for resulting trouble.

I believe the chief should appoint the driver, first seeking the advice of the captains if he himself does not know his men intimately.

George Bower, Chief, Rome, N. Y.: We work the two platoon system—24 hours on and 24 hours off. Four men and the officer on all apparatus can drive, which gives two men on each shift who are drivers and also one officer.

The mechanic has charge of all motors, but the answer to the question of who is held responsible when mechanical trouble develops is not always the same. It depends upon the condition.

Our men are appointed by the chief. We think this is the best method and the only way to appoint men in a fire department.

C. E. Willert, Chief, Mt. Clements, Mich.: In small departments where they still maintain three meal shifts, every man should be instructed to drive apparatus.

The head mechanic is held responsible when mechanical trouble develops.

Drivers are appointed in our department and we have found it very satisfactory.

E. T. Shepherd, Chief, Henderson, N. C.: I believe that just a few and officers should be trained to drive fire apparatus.

If the company is a paid one the mechanic should be held responsible for mechanical trouble, but in the case of a volunteer department the driver should be held responsible.

In our department the drivers are elected but I believe they should be appointed.

J. L. Guthrie, Chief, Beckley, W. Va.: Every man should be trained to drive fire apparatus in case of an emergency.

If you have a paid mechanic, I believe he should be held responsible for any mishap, if not the first driver should be responsible for mechanical trouble.

I believe, that drivers should be appointed by the chief.

T. Corson, Chief, Millville, N. J.: In our department we have four paid drivers and three extra ones. I do not think it is advisable to have all the men in the company trained as drivers.

We have a regular mechanic for our apparatus and of course we hold him responsible for any mechanical trouble.

Our regular drivers are elected and sworn in by the Commissioner.

John J. Shea, Chief, Hoosick Falls, N. Y.: I believe it is best to have just a few regular drivers and they are required to keep a close check-up on the condition of the apparatus. They are held responsible for any mechanical trouble.

The drivers in our department are appointed and I believe it to be a very good plan.

W. Rodgers, Chief, Ottawa, Kan.: I believe all members should be able to drive motors, although we have our regular drivers appointed by the chief. In a town of this size, we have from six to nine men who can handle the apparatus if called upon to do so. We have three mechanics and one expert, so that our apparatus are always in good condition.

A. Baker, Chief, Frostburg, Md.: I believe that as many men as possible should be trained to drive the fire apparatus.

The chief of our department is held responsible for the equipment and is required to see that it is in good working order.

In our department the chief appoints the drivers and I think it is a good policy because sometimes at an election the best fitted man for the position does not receive the election.

G. Peruss, Chief, Laurium, Mich.: In this department the officers and a few selected men are trained to drive fire apparatus. The engineer is held responsible for the apparatus. Men who are trained to drive the apparatus are appointed.

J. W. East, Chief, Hopkinsville, Ky.: I believe that every member of the company should be trained to drive fire apparatus.

In our department the driver is held responsible for any mechanical trouble.

Drivers are appointed in this department.

Chief of Fire Department, West Pittston, Pa.: I do not believe every member should drive the apparatus. We have tried a good many drivers before we secured a proficient one.

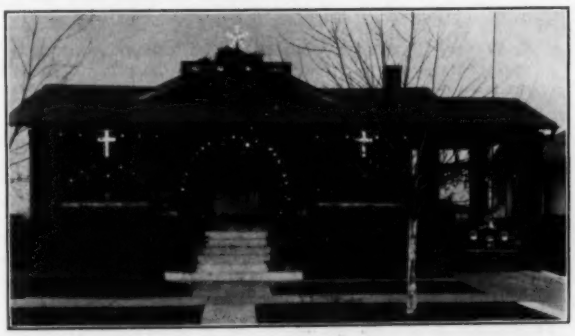
We have six drivers for each truck appointed by the foreman and passed by the Board of Directors of the Hose Company. The men showing a good sense of responsibility on the hose truck are taught the operation of the pumper and promoted. At present we have eight drivers for the pumper and six for the hose truck.

The fire officers can operate the pump and drive but do not do so, unless forced to by lack of a driver.

G. A. Barthes, Chief, Biloxi, Miss.: All members should be trained to drive the apparatus. In our department the housekeeper is held responsible for any mechanical trouble that might occur. All drivers are appointed, and I believe it is the best plan. I have found it very satisfactory.

H. E. Colby, Chief, Franklin, N. H.: We appoint and train a few men to drive the fire apparatus. The officers are also instructed for an emergency. The repair man in our department is held responsible for any mechanical trouble that develops.

J. C. Sullivan, Chief, Lowell, Mass.: All members in the



Chief Herring Awarded Prize for Christmas Decorations

Each year a contest is conducted in Murphysboro, Ill., for the most attractive Christmas exteriors, and a number of prizes are awarded. Chief Albert Herring won first prize this year and he was also awarded first prize in the previous year's competition. The illustration shows Chief Herring's home during the holiday season.

department, I think, should be able to drive. The mechanic placed in charge of the apparatus is responsible for any mechanical trouble that might arise.

The drivers in our department are appointed and I believe our plan to be a good one.

T. M. Dillon, Chief, Grand Island, Nebr.: I think that only regular drivers should operate the fire apparatus. When he comes on duty he should test out the apparatus and be sure that it is in good condition for if he neglects to do so and trouble arises he is held responsible.

The chief appoints his drivers from the men and it has worked out very well here.

F. J. Duda, Chief, Bessemer, Mich.: A few men and the officers are trained to operate the apparatus. The engineer of our department is held responsible for the mechanical condition of the equipment. The drivers are appointed.

T. J. Cameron, Chief, Scottsbluff, Nebr. I do not think that all the members should be trained to drive the fire apparatus. We hold our appointed drivers responsible for mechanical trouble. I appointed all the drivers and they are approved by the City Council.

L. C. David, Chief, Lawrenceville, Ill.: Every member should be trained to drive fire apparatus. The chief is held responsible when mechanical trouble develops. Each member operates the apparatus for about a month at a time.

ANSWERS TO PREVIOUS QUESTIONS

The following replies are in reference to a question on the operation of repair shops by fire departments:

W. E. Crawford, Chief, Hoquiam, Wash.: Our repair shop is located at the rear of Headquarters Station. We have one head mechanic and the boys from the station aid when needed.

P. Treadwell, Chief, Fort Collins, Colo.: We maintain a repair shop for fire department only.

We have reduced our repair costs by half and I find the men know the apparatus better by doing our own work.

* * *

The following reply gives information on the sending of firemen to short fire college courses:

Wm. B. Walter, Chief, McGregor, Ia.: My city pays the expenses of two men to attend the Short Fire Course at the state college at Ames, Ia.

Men who attend the school must give a report to the city council and fire company after they return; also act as local instructors in future meetings of the company.

Those in charge of the short course here in Iowa keep a record of attendance, whether the men use note books, etc., students are graded accordingly and a report sent to the city from which the men are sent. I believe this idea keeps a better interest in the school and is sure to make a larger attendance.

The only improvement on the results would be to publish a small pamphlet after the short course to be mailed to every chief in the state. This would probably promote a larger attendance for the next year.

* * *

The following answer is in reference to a question on the purchase and life of rubber boots, coats and helmets:

A. F. Wever, Chief, Kirwood, Ill.: The Village Board buys our coats and rubber boots and we in turn are expected to take good care of them—which we do. After attending a fire, and the coats have been wet, we thoroughly wash them and dry them before placing them in the locker. The boots receive the same treatment. The coats we have are known as the Body Guard Bunker coats and we have found them to be very satisfactory. We found after using them for ten hours at a fire during a heavy rain that not one showed any sign of dampness inside. To any small town or village who is in the market for good coats, I say get Body Bunker Coats and they will have something that will keep the firemen warm and dry.

* * *

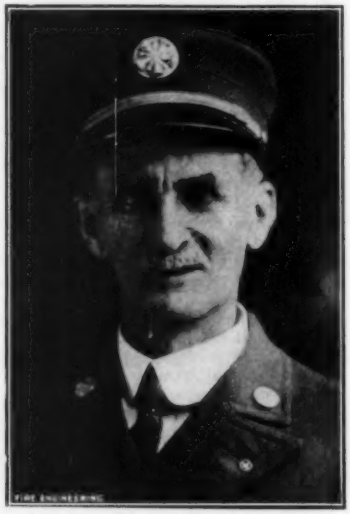
Following is a reply on the question of regulations of dry cleaning and dyeing plants:

Henry R. Taft, Chief, Norwich, Conn.: We have no local ordinances governing the equipment of dry cleaning establishments, but insist that all of them install machinery and appliances of an approved type, tested and bearing the label of the National Board of Underwriters Inspection Department.

It is rather a difficult proposition to get cleaners to install a sprinkler system. They are all compelled to install First Aid Fire appliances such as carbon tetrachloride, foam, and soda-acid extinguishers.

Chief Louis Behrens Re-Elected

For the twenty-fifth year, Chief Louis Behrens, head of the Fire Department in Charleston, S. C., has been re-elected to his office at the annual meeting of the Board of Firemasters.



Chief Louis Behrens

On January 6 Chief Behrens began his fifty-fifth year with the Charleston Fire Department and his fiftieth year as a member of the paid department.

Chief Behrens' first experience in fire department work was in 1876, when, at the age of sixteen, he enlisted in the volunteer fire department and was assigned to Hook and Ladder Company No. 2. Two years later, in 1878, he resigned from this company and joined the German steam fire engine company. On the disbandment of the volunteer fire department on December 20, 1881, became a member of the paid fire department, entering as call man on Engine Company No. 1. Five years later he was appointed to the position of foreman of Company No. 1, and in 1898 he bacame assistant chief.

In 1900 the Board of Fire Masters at the advice of Chief O. G. W. Margenhoff, sent Mr. Behrens to New York for intensive training with the New York Fire Department. There he was assigned to Hook and Ladder Company No. 18 and served in the life saving corps of the department.

From 1900 to 1907 Chief Behrens was instructor and Assistant Chief at the school of instruction of the Charleston department. Here he introduced the most up-to-date methods and appliances, and even up to today over 90 per cent. of the drills and other methods used by the New York Fire Department are in vogue with the Charleston department.

On January 7, 1907, Mr. Behrens was appointed Chief of the Charleston Fire Department and he has served continuously since then. He has never missed a day from service during the course of the whole fifty-five years, except such as were necessary because of injury acquired in the course of duty.

Urges Cooperation with Fire Departments

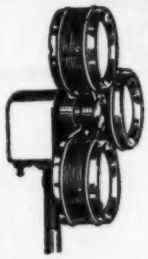
The studio which recently produced the sound film version of "The Third Alarm" has recently issued a bulletin to motion picture theatres urging them to cooperation with Fire Departments by giving a part of the receipts from the showing of this film to local fire department organizations.

The bulletin referred to says in part:

"'The Third Alarm' is proving throughout the country a real box office sensation. Critics have acclaimed this picture as the most perfect fire story since the installation of sound pictures. Get in touch with your local fire department, arrange a special screening, giving a part of the receipts to the Firemen's Fund. Invite your city officials."

This particular film, a description of which appeared in a recent issue of FIRE ENGINEERING, presents a fire department story in a very entertaining way, and reproduces with accuracy many familiar scenes in the lives of the firemen. The producers, Tiffany Productions, Inc., have urged their local distributors to work with the theatres throughout the country in an endeavor and wherever conditions are suitable, to have the local fire department share in the proceeds by either arranging for special performance or assigning the department a part of the proceeds of a regular performance.

The most Effective Combination of Warning Signals



BUCKEYE "ROTO-RAYS"—A silent signal of unquestioned effectiveness to protect your apparatus and your firemen against accidents.

At night these three revolving red signal lights make identification of the apparatus instantly possible as far as light is visible.

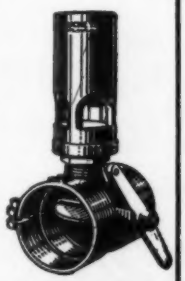
Insist upon having "Roto-Rays" on the next piece of apparatus you buy. It's just as essential as the whistle, the siren or the bell. Easily installed on apparatus now in service.

The Powerful BUCKEYE EXHAUST WHISTLE predominates in over 600 fire departments where serious traffic problems exist.

The shrill blast of a Buckeye Whistle effectively carries far ahead of the apparatus. Its sound is distinctive and extremely penetrating.

"Roto-Rays" and a Buckeye Whistle form the most effective combination of Warning Signals in existence.

Prices and full particulars upon request.



Buckeye Iron & Brass Works
326 E. Third St. Dayton, Ohio

BUCKEYE
WARNING SIGNALS THAT WARN

Minimize Water Damage · Reduce Insurance Rates

Shuredry
Waterproofed
Salvage Covers

City of Charleston
WEST VIRGINIA

Nov. 16, 1929

Fulton Bag & Cotton Mills.
Atlanta, Ga.

Gentlemen:-

The "SHUREDRY" salvage covers I purchased from you some time ago are doing just what you recommended them to do. They have paid for themselves several times in reducing the water damage.

I believe they are one of the most important things in a department with the largest saving, and the smallest purchase cost.

Very truly yours,

Write for Samples and Prices

Fulton Bag & Cotton Mills
St. Louis Atlanta Dallas
Minneapolis Brooklyn New Orleans Kansas City, Kan.

Are You Looking for a Position—

Do You Need Any Help—

Have You Some Used Equipment For Sale—

Are You Calling for Bids for New Equipment—

The most effective and economical way of making your wants known is through a small classified advertisement in FIRE ENGINEERING, the magazine everybody in the fire field reads. The "Position Wanted" rate is only $2 per inch (single column); all others $4.

FIRE ENGINEERING
24 West 40th Street
New York City

FALSE ALARMS

A PARTNERSHIP

In each town can be found a certain element whose chief delight is racing fire apparatus to a blaze. But one of the clan was caught by a zealous motorcycle cop.

"Do you know that you were doing fifty?" the cop asked.

"Well, so were you."

"Do you know what that means?"

"Sure—fifty-fifty."

The modern wife not only expects her husband to bring home the bacon. She expects him to fry it and serve it as well.

HE KNEW

Several of the boys went to inspect a second-hand truck that another member suggested the department buy. Much of the car's finery was gone.

"I wonder what she'll do to the gallon?"

"Just lets it leak out, I suppose," said the other.

Our janitor is down with a cold. Well, we warned him that he'd catch a chill sitting too near that furnace.

VERY DISTURBING

The hotel guest was thoroughly annoyed. People were running backward and forward along the corridor outside his room, making a terrible noise. So he took the telephone and spoke to the manager's office.

"I can't go to sleep with all this noise going on," he complained.

"I'm sorry, sir," said the voice of an excited clerk, "but I'm afraid we can't control the movements of the fire department."

An advertisement states that "it took 12,000 workers to put that bottle of milk at your door." Yes, it sounded as if it did.

ADVANCE NOTICE

A darky who was somewhat of a neighborhood character and who used to do odd jobs about the station, went up to the captain and asked for permission to be absent on the coming Friday. He explained that he wished to attend the funeral of his brother. The officer was very sympathetic and gave the required permission.

"But you aren't wearing mourning," he remarked.

"Oh, no sir," the colored man replied, "You see, sir, he ain't dead yet. The hanging ain't till Friday.

"Strike me, scratch me all you wish and I won't flare," said the wet match.

ODDS AGAINST HIM

Last week an out-of-town chief called and of course he was still in awe of the big buildings in the city, the subway and the wonders of the immense city. He told of his experience in the Grand Central Station. After wandering about aimlessly for some time he called to a red cap porter:

"Say, how do you get out of this place, anyway?"

"Say, boss," replied the red cap, "dey is so many ways of getting out of dis place, dats what I can't hardly see is how you remains in it."

HE KNEW HIS CAR

"You can't stop here!" shouted the traffic cop when a driver stalled his car near a fire hydrant.

"You don't know this car," replied the driver with a sad smile.

—Drawing by "Art" Espey

An Extra Large Tip

DOUBLE CHECK

The lieutenant was giving a rookie his first lesson in fire department discipline. He said:

"When you answer me you should say, 'Yes, sir,' or 'No, sir.'"

The rookie indicated he understood by saying, "Righto."

"It's no use talking," said the fat woman when she found that she could not squeeze into the phone booth.

THE LAST STRAW

A fireman, going home after serving on the day shift, found himself in a crowded subway car. Near him was a man who was too lazy to steady himself by means of the straps provided. Each time the car would lurch, he would lose his balance and invariably step on the fireman's foot. The man in uniform could stand it no longer:

"Will you please get off my foot?" he said politely.

"Put your foot where it belongs!" was the sharp reply.

"Don't tempt me! Don't tempt me!"

"I want you men to throw yourself into your work," said the new fire chief, as they dashed madly to the scene of the fire.

FAST STEPPING

A still alarm was turned in because of the scaffolding on a parochial school caught on fire. A member of a ladder company went up on the scaffold, but due to its weakened condition, the platform broke and he fell on the sidewalk below. A priest saw the accident and ran over to help the fireman to his feet.

"Are you hurt badly?" he asked.

"No. I feel all right."

"Well," said the clergyman, "you see the good Lord was with you that time."

"If he was, Father," replied the fireman, "he was traveling fast."

Even his best friends wouldn't tell him, and so he flunked the promotional examination.

EQUAL

Two students were discussing some famous writer's essay on equality of human beings.

"He says, 'Human beings are very much alike.'"

"Sure. He's right. Look at the fellow that drives the fire apparatus. What is he? Nothing more than a truck driver with sound effects."

MEANT BUSINESS

Wanting to be a good sort of fellow, a fireman gave a bell from an old type fire alarm box to some youngsters who were outside of the station. A fight resulted.

Little Willie came home in a sad state. He had a black eye and a number of scratches. His clothes were a sight. His mother was horrified.

"Oh, Willie, Willie! How often have I told you not to play with that impossible Peck boy!"

Little Willie regarded his mother with an expression of the deepest disgust.

"Say, ma," he objected, "do I look as if I had been playing with anybody?"

There are good things about backgammon. In the course of an evening you can usually turn it into a crap game.

ONE TOO MANY

One of the men whose duty it was to go down to the butcher shop for the company provisions wanted to finish some work and so by bribing a youngster with a nickel the boy was delegated to go to the store.

As soon as he rushed into the shop he delivered this message before he could forget any part of it:

"Jerry Myers says to send him another ox-tail, please, an' he says the last one was very nice an' he says he wants another off the same ox."

An egotist is a man who tells you those things about himself that you intended to tell him about yourself.

YOUR CATALOG PAGE

Fire Protection Equipment and Supplies

1 Acid Siphons.
2 Adaptors for Changing Hydrant Threads.
3 Acid Jars and Rings.
4 Aerial Ladders, Detachable.
5 Aerial Trucks.
6 Alarms, Siren, Electric.
7 Alarm Systems, Industrial.
8 Alarm Systems, Municipal Telegraphic.
9 Alarms, Thermostatic.
10 Asbestos Clothing.
11 Badges, Insignias, Buttons, etc.
12 Banners, Trumpets, etc.
13 Battery Jars.
14 Battery Zincs for Fire Alarm Batteries.
15 Bells, Fire Alarm, Municipal
16 Body Equipments.
17 Boxes, Gongs, Reels, Registers, Fire Alarm.
18 Brakes, Air.
19 Brake Linings.
20 Brooms, Fire.
21 Building Materials, Fire Retardant.
22 Caps, Firemen's.
23 Chains, Non-Skid Fire Apparatus.
24 Chassis for Fire Apparatus.
25 Chemical Engines and Tanks.
26 Chimney Fire Fusees & Compounds.
27 City Service Trucks.
28 Coats & Suits, Firemen's Quick Hitch.
29 Combination Chemical & Hose Cars.
30 Cutting & Welding Equipment Blow Torch.
31 Cutting & Welding Equipment, Electric.
32 Deluge Sets.
33 Door Openers, Fire Station, Automatic.
34 Extinguishers, Calcium Chloride.
35 Extinguishers, Carbon Dioxide.
36 Extinguishers, Soda-Acid.
37 Extinguishers, Carbon Tetrachloride.
38 Extinguishers, Foam.
39 Extinguishers, Powder.
40 Fire Boat Nozzle Equipment.
41 Fire Department Supplies, General.
42 Fire Exit Devices, Door Opening.
43 Fire Alarm Posts.
44 Fire Escapes, Portable.
45 Fire Escapes, Rigid.
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47 Flare Lights.
48 Flashlights, Hand.
49 Foam Liquid for Extinguishers.
50 Gas Masks and Respirators.
51 Gas & Smoke Helmets.
52 Gasoline & Oil Handling Equipment.
53 Goggles, Firemen's.
54 Helmets, Metal, etc.
55 Hose Carts, Reels & Racks.
56 Hose Clamps.
57 Hose, Fire.
58 Hose, Chemical.
59 Hose Holders.
60 Hose Jackets.
61 Hose Standardization Tools.
62 Hydrant Draining Pumps.
63 Hydrants, Fire.
64 Jacks for Fire Trucks.
65 Jacks, Shoring & Prying.
66 Ladders, Fire.
67 Lightning Arresters.
68 Motorcycles, Fire Dept. Equipped.
69 Nets, Life.
70 Nozzles, Pipes & Misc. Brass Goods.
71 Packings, Pumps.
72 Pads, Pole Hole.
73 Paints, Fire Resisting.
74 Priming Ether, Motor.
75 Pumping Cars, Standard.
76 Pumping Cars, Foam.
77 Pumps, Fire Apparatus.
78 Pumps, Fire Service, Stationary.
79 Pumps, Portable for Fire Protection.
80 Record Books, Fire.
81 Relief Valves.
82 Reviving Apparatus, Oxygen.
83 Rubber Clothing
84 Salvage Covers.
85 Searchlights.
86 Shingles, Fire Retardant.
87 Shirts, Firemen's Special.
88 Sirens, Apparatus & Chiefs' Cars.
89 Sliding Poles.
90 Soda & Acid Chemicals.
91 Spark Plugs, Fire Apparatus & Motorcycles.
92 Squad and other Auxiliary Cars.
93 Sprinkler Head Shut-Offs.
94 Sprinkler Supervisory Service.
95 Sprinkler Systems, Automatic, Foam.
96 Sprinkler Systems, Automatic, Water.
97 Steam Fire Engines.
98 Tarpaulins & Fire Blankets.
99 Tetrachloride Chemicals.
100 Thawing Equipment, Hydrant.
101 Tires, Fire Apparatus, Pneumatic, Solid, Cushion and Non-Skid.
102 Tractors.
103 Traffic Clearing Systems.
104 Triple Combination Pumping Cars.
105 Uniforms.
106 Water Towers.
107 Wheels, Cushion.
108 Whistles, Fire Alarm, Compressed Air
109 Whistles, Fire Alarm, Steam.
110 Whistles, Fire Apparatus.
111 Wrecking Trucks.

Spruce up for 1931

Make use of this page for obtaining, without obligation, complete information on equipment needed by your department from reliable manufacturers.

To get the information you want, just mail in the coupon below with your name and address and numbers that indicate the equipment listed on which you would like descriptive literature and prices.

We will then notify reliable manufacturers of your interest in such equipment and request that they send you complete information.

They will gladly do this and it will be a pleasure for us to help you in this way. No charge whatever! Nothing private here! So spruce up for 1931!

FIRE ENGINEERING, 24 West 40th St., New York City

As a fire protection official I should like to have descriptive literature and complete information mailed to me, without cost or obligation, on the equipment indicated by the following numbers:

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Nos. .....

Nos. .....

Nos. .....

Nos. .....

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Street .....

City and State.....

For Information on Any Equipment Not Listed, Write on This Page or Use Separate Sheet

1-21

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THE BI-LATERAL FIRE HOSE CO.

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Complete Automatic Spring Outfits for Doors Opening In and Out. Used throughout the world. Once on the doors your door opening troubles cease. They last a lifetime. Send for Bulletins.

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A mass-woven jacketed hose with an exclusive weave which resists water soaking. Dries faster — equally pliable, wet or dry. Write for details.

MANUFACTURED EXCLUSIVELY BY
HEWITT-GUTTA PERCHA RUBBER CORPORATION
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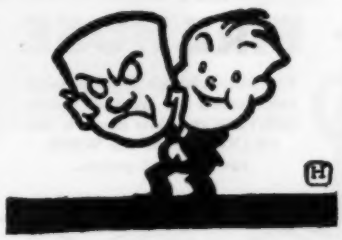

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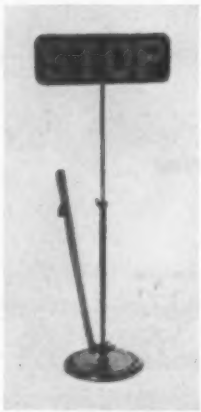
All Traffic STOPPED around FIRES, FALLEN WIRES, BROKEN WATER MAINS, DANGEROUS BUILDINGS, Etc.



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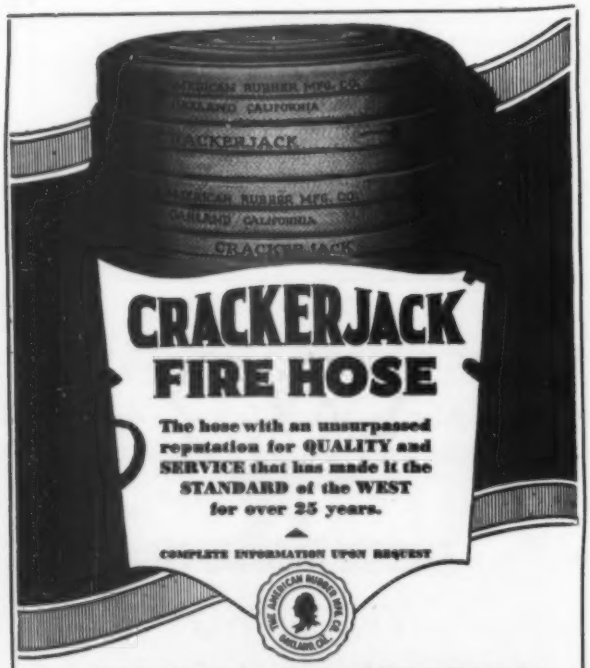
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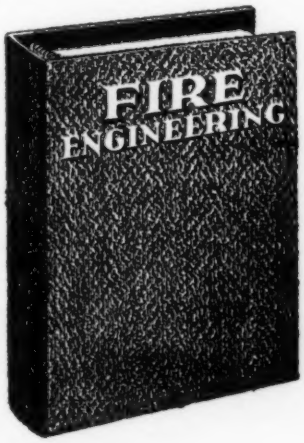

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